Chloë T Maddock. Old and New Horizons: The Information Resource Preferences of Hobbyists Before and After a Research Session. A Master's Paper Proposal for the I.S degree. April, 2021. 120 pages. Advisor: Rob Capra

The goal of this paper is to carry out a qualitative and exploratory study of craft or maker hobbyists and their resource preferences over a single search session. The study uses information source horizon maps as the main tool of data collection alongside diary entries. Participants are asked to draw their information source horizons maps before and after their search session. Data analysis was carried out with content analysis and by applying various frameworks and models, such as Stebbins' serious leisure, Savolainen's everyday life information seeking, and Bates' fundamental forms of information. The study is designed to be qualitative and exploratory. The paper gives recommendations on creating LibGuides regarding craft hobbies from the data and analysis carried out.

Headings:

INFORMATION-seeking behavior

INFORMATION-seeking strategies

Serious Leisure

Information horizons

OLD AND NEW HORIZONS: THE INFORMATION RESOURCE PREFERENCES OF HOBBYISTS BEFORE AND AFTER A RESEARCH SESSION

by
Chloë T Maddock

A Master's paper proposal submitted to the faculty
of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements
for the degree of Master of Science in
Information Science.

Chapel Hill, North Carolina

April 2021

Approved by

_____

Dr. Rob Capra

Table of Contents

Introduction

The goal of this paper is to carry out a qualitative and exploratory study of hobbyists who "use their body" to create a "thing" and their resource preferences. "Use their body" refers to any hobby that is completed by using the body whether it be hands, feet, or any other body part. This category of hobbyists is also known as the "maker" hobbyist according to the serious leisure perspective. People in this category are colloquially known as craft hobbyists. By using a combination of information source horizon maps and diary entries, this research seeks to better understand what resources are preferred by maker hobbyists. It will also consider how those resource preferences change over a single research session, asking participants what resources they expect will be helpful versus what ended up actually being helpful. Finally, this paper will consider what practical recommendations could be given to LibGuides in order to make them more useful to maker hobbyists. LibGuides were chosen because many librarians use this platform to curate knowledge and share information. However, the recommendations can be used by anyone who is seeking to create a guide regarding craft hobbyist resources. Regarding frameworks and models, this paper applies Stebbins' serious leisure perspective (Stebbins, 1982), Bates' berry-picking model (Bates, 1989), and Bates' fundamental forms of information model in its discussion of the data (Bates, 2006).

This paper will include a literature review of popular frameworks and models used in the study of hobbyist information behavior and discuss why hobbyist information behavior is an important area of study. Partly due to the lack of attention given to this

area of study, many scholars spend time justifying why research in this area is worthwhile. Because information source horizon maps are a major component of this study, the literature review will spend time discussing how this pictorial metaphor originated and how various papers have implemented the concept.

Following the literature review, the research questions and methodology of this study will be outlined. The methodology section will have a number of sub-sections. First, it will cover the positionality/researcher role. Second, there will be a sub-section regarding research participants and the sampling techniques used. After this section, the paper will discuss the data collection methods used. Lastly, it will consider the impact, limitations, research quality, and ethical considerations of the study.

Once the methodology has been covered, the paper will dive into the discussion of the information source horizon maps and diary entry data. The discussion section will focus on giving a descriptive account of participants' information source horizon maps and their responses to questions asked in the diary entries. In this section, information source horizon maps will be referred to as "horizons" or "maps" to succinctly differentiate it from other information horizon types. Within this discussion, the participants' projects and goals will be introduced. After this, the paper will describe the resources that participants placed on their information source horizon maps and their explanations regarding why they did so. It will also discuss whether participants' predictions were correct and how their information source horizon maps changed over time. Participants' chosen resources will also be briefly discussed using Bates' fundamental forms of information model. Finally, the paper will cover the practical recommendations for the LibGuides before concluding the study.

Literature Review

Studying Hobbyist Information Behavior

Hobbies are highly "heterogeneous" (Hartel, Cox, & Griffin, 2016, p. 2), ranging from competitive activities, such as sports, to non-competitive activities, such as crafts, volunteering, hillwalking, and even watching horror films. These hobbies can be undertaken at a variety of levels of expertise. Certain hobbies require no expertise at all, while others may need significant practice. A number of frameworks have been developed that have served to help scholars better understand the information behavior of hobbyists. This literature review is concerned only with the hobbies included in the serious leisure category. Serious leisure can be summarized as the "systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge" (Stebbins, 1992, p. 3). This should not be confused with the serious leisure perspective which will be discussed later in this literature review.

The information behavior of hobbyists has only recently been receiving attention in the field of information science. Traditionally, information behavior researchers have ignored leisure-orientated information behavior, choosing to focus instead on academic and job-related contexts (Hartel et al., 2016; L. Lee, Ocepek, Makri, Buchanan, & McKay, 2019; Savolainen, 1995). These contexts could arguably be seen as more useful by the wider field. Gorichanaz (2019) notes that most information behavior research has

focused on activities that people are "compelled to undertake" (p. 1302). In some information science circles, the study of hobbyist information behavior is still overlooked. For example, at the time of writing, the Library, Information Science & Technology Abstracts with Full Text's thesaurus does not include any entries for "serious leisure" or "hobby".

Despite this, the literature has grown steadily. In recent years, papers on the serious leisure perspective or on activities that fall in the serious leisure category have been written by many different authors, including Case (2009), Mansourian (2020), Lee and Trace (2009), Adams (2009), Chang (2009) and Yakel (2004). One of the most prolific scholars has been Hartel, who according to Google Scholar, has at least 672 citations regarding her publications on the topic of serious leisure and who has reviewed much of the current literature in the field (Case, 2012). These studies have focused on a wide variety of hobbies, ranging from common hobbies, such as backpacking, knitting, and gourmet cooking, to unusual hobbies, such as rubber duck collecting. These studies have generally used qualitative methods, particularly exploratory and ethnographic approaches (Hartel et al., 2016). Mansourian (2020) argues that there needs to be more studies that use mixed methods and quantitative designs.

An important concept to the study of the information behavior of hobbyists is the serious leisure perspective. The serious leisure perspective began development in the 1970s with the sociologist Robert Stebbins (Hartel, Stebbins, Fulton, Chang, & Case, 2007). In 1982, Stebbins wrote serious leisure's seminal piece: *Serious leisure: A Conceptual State*. Since then, his name has been cited in papers that define, develop, and

discuss the serious leisure hobbies (Bates & Maack, 2009; Case, 2012; Cox, Griffin, & Hartel, 2017; Hartel, 2014a, 2014b; C. P. Lee & Trace, 2009; Mansourian, 2020).

As mentioned earlier, only some hobbies fall under the umbrella of what is known as "serious leisure" in the serious leisure perspective. The serious leisure perspective defines a particular set of hobbies as "serious". These "serious" hobbies are rich in information behavior material. Other hobby types are "casual leisure" which are hedonistic and "project-based leisure" which are short-term, infrequent, and moderately complex undertakings, such as organizing a Halloween party (Stebbins, 1982, 2009). Within the category of serious leisure, Stebbins describes the different types of people who navigate their hobbies: amateurs, hobbyists, and volunteers. Within the hobbyist category, there are five subtypes of hobbyists: makers and tinkers, collectors, activity participants, players of sports and games, and liberal arts pursuits (Stebbins, 2009). Stebbins' serious leisure perspective helps scholars to better understand the components of serious leisure, such as the types of leisure, their participants, and their benefits. Stebbins (2016) emphasizes that an important aspect of serious leisure is that it is uncoerced. Some authors challenge Stebbins' serious leisure perspective. Veal (2017) disputes Stebbins' conception that leisure is a set of discrete categories, arguing that "seriousness" in leisure activities is best viewed as a continuum. Instead, Veal (2017) contends that most leisure activities can be undertaken at different degrees of seriousness.

Savolainen's (1995) seminal work, "Everyday Life Information Seeking Framework", sought to legitimize the nature of nonwork contexts. Importantly, the piece

drove attention towards nonwork information behavior (Case, 2012). In the 1980s, a small number of studies were published on everyday life information seeking (Savolainen, 1995). Between 1996 and 2008, studies of everyday life information behavior doubled (Vakarri, 2008).

Savolainen's (1995) everyday life information seeking framework considers information seeking in the nonwork context. Rather than letting hobbies take the central focus, as is the case with Stebbins' framework, leisure activities are just one component of Savolainen's framework which is broadly focused on nonwork information behavior. Savolainen (1995) highlights the concept of way of life, which he describes as the order of things or choices that individuals make daily. Savolainen (1995) also defines the concept of mastery of life as a person's ability to manage "the meaningful order of things" in everyday life (p. 264). He presents mastery of life as a typology, specifying different types of orientations that occur in information seeking situations (Savolainen, 1995). These orientations, such as optimistic-cognitive, pessimistic-cognitive, defensive-affective, and pessimistic-affective, help illustrate one's mastery of life (Savolainen, 1995). In comparison to Stebbins' serious leisure framework, Savolainen's everyday life information seeking framework takes an approach that focuses more on information science, capturing both affective and cognitive factors.

The individual's personal experience also appears in serious leisure literature. Savolainen's (1995) everyday information seeking framework is built upon the foundation that social class can affect one's mastery of life or ability to problem solve. Added to this, Savolainen (1995) states that individuals acquire information seeking

habits which eventually results in a profile of information orientation. These information seeking habits can be considered a "set of attitudes and dispositions towards information seeking and use in certain problem situations" (Savolainen, 1995, p. 265). Stebbins (2009) also recognizes that individual experiences play large roles in serious leisure information activities. He argues that serious leisure activities must be understood in relation to "their larger personal, structural, cultural, and historical background" (Stebbins, 2009, pp. 619-620). Gorchanaz (2019) claims that information activities are "always playing out in the lifeworld, and they can be enriched, challenged, replaced…" (p. 1307).

Other frameworks and concepts have also been developed. Mansourian (2020) divides serious leisure participants into three categories: appreciators, producers/collectors, and performers. Hartel et al. (2016) suggest that Anders Hektor's framework should be further refined and used more widely. Hartel et al. (2016) recommend that researchers apply Hektor's framework alongside the serious leisure perspective, suggesting that this would confer numerous benefits. However, the authors outline some of the shortcomings of Hektor's framework, stating that it is in need of general refinement (Hartel et al., 2016). According to Hartel et al. (2016), Hektor's framework departs from previous frameworks constructed at the time, which were grounded in "cognitive metatheory oriented by individual experience" (p. 6). Instead, Hektor locates the framework within the social world of the actor (Hartel et al., 2016). Similar to serious leisure, Hektor's framework is grounded in socio-cognitive sensibility. Hektor's (2001) model focuses on information activity, defining eight categories of

activity: search and retrieve, browse, monitor, unfold, exchange, dress, instruct, and publish.

Despite Hartel et al. (2016) suggesting its use and its potential, Hektor's framework has not been as influential as Stebbins' serious leisure and Savolainen's everyday life information seeking frameworks. Other than Hartel et al. (2016) and Gorichanaz (2017, 2018), very few authors have used Hektor's framework for their analysis.

Bates' fundamental forms of information has become increasingly important. Bates' (2006) takes a broad view of information, locating it to the "very basis of any living being's awareness" (p. 1033). She defines information as "the pattern of organization of the matter of rocks, of the earth, of plants, of animal bodies, or of brain matter" (Bates, 2006, p. 1033). Information is something that is "constructed, stored, and acted upon by living beings in countless different subjective ways" (Bates, 2006, p. 1034). The only exception is entropy (Bates, 2006).

Bates (2006) classifies a series of categories that information falls under. She identifies that "all information is *natural information*, in that it exists in the material world of matter and energy", but that some of it is represented as either encoded or embodied information (Bates, 2006, p. 1035). Embodied information is defined as the "corporeal expression or manifestation of information" (Bates, 2006, p. 1035); for example, a phenotype. Whereas, encoded information represents natural information that has been given meaning through "symbolic, linguistic, and/or signal-based patterns of

organization" and can be re-encoded (Bates, 2006, p. 1035); for example, a genotype or writing.

There are three subtypes of embodied information: experienced information, enacted information, and expressed information. Experienced information is the information that a person recalls from herself and may be conscious or unconscious. Bates states that enacted information is the "pattern of organization of actions of an animal in, and interacting with, its environment" (Bates, 2006, p.1036). Enacted information can be certain skills or behaviors that were learned through observing and copying information which is then enacted by another being (Bates, 2006). Expressed information refers to communication, specifically when it is used as a social function, such as in spoken language and gestures. There is also information which is stored external to the body, such as embedded and recorded information (Bates, 2006). Embedded information is the items or object that beings have created or altered and have left behind. Recorded information refers to the use of symbols or drawings to convey meaning, such as written language, illustrations, audio recordings, and photography (Bates, 2006).

Recognizing fundamental forms of information is relevant to the study of serious leisure, helping to identify the holes in the study of information behavior. Most of the fundamental forms of information described by Bates (2006) appear in serious leisure, but availability and importance vary between serious leisure activities (Mansourian, 2020). Mansourian (2020) defines three groupings of serious leisure which he locates in Bates' fundamental forms, stating that each category has its own information source

preference derived from forms of embodied, enacted, encoded, experienced and recorded information. Hartel et al. (2016) critique Hector's model for its lack of attention towards embodied information. Although not directly drawing from Bates (2006), Cox et al. (2017) argue that the body influences and shapes cognitive processes. Embodied information has generally been neglected in the study of information behavior (Cox et al., 2017). It makes it all the more important to pay attention to embodied information as modern technologies are increasingly encoding embodied information (Cox et al., 2017).

Serious leisure is composed of a complex set of information seeking activities that are uncoerced and unrelated to work, referring to a diverse set of hobbies. The individual and their experiences and background are recognized as playing an important role. Stebbins' and Savolainen's frameworks have been the most important in the field. Increasingly, there is has been attention to the forms of information, particularly the role of embodied information in serious leisure. However, despite serious leisure's steady growth, it has been largely overlooked by the field of information behavior as it may be difficult to see its relevance in comparison to work, health, and citizen related information seeking activities. So, why study serious leisure?

Why Study Serious Leisure?

Some authors justify the study of serious leisure by arguing that serious leisure has intrinsic value. Many studies have discussed and shown the benefits of serious leisure. One of the first people to do so was Bates who argued that hobbies belong to important life information or information needed for successful living (Bates, 1974 as

cited in Hartel et al., 2016). More recently, Gorichanaz (2019) overlays this dimensionality of self-development with ethics. He argues that information science has an ethical obligation to study meaningful activities due to its ethical directive, meaning people develop themselves in a more integrated way which will lead to self-care (Gorichanaz, 2019). Sometimes, studies mention the practical application of serious leisure research, but these are generally vague and short (Hartel et al., 2016).

A number of papers show the benefits of serious leisure through empirical findings (Mansourian, 2020). As part of the six qualities of the serious leisure perspective, Stebbins (2009) includes nine "durable benefits", including "self-gratification", "self-development", "self-enrichment", "self- expression", "regeneration or renewal of self", "feelings of accomplishment", "enhancement of self-image", "social interaction and belongingness", and "lasting physical products of the activity" (pp. 625-626). The participants of some early studies, such as Lefkowitz (1979 as cited in Stebbins, 1982) Bosserman and Gagan (1972 as cited in Stebbins, 1982), and Best (1973 as cited in Stebbins, 1982), view leisure as a way to realize self-development, self-expression, and identity. More recent studies have also shown the importance serious leisure has on the self (Caldwell, 2005; Kim, Yamada, Heo, & Han, 2014; Shupe & Gagné, 2016; Cheng & Pegg, 2016; Lee & Ewert, 2019). Serious leisure does not just positively affect personhood, it also includes other benefits; it can create joy and meaning in life (Iwasaki, 2007). Serious leisure builds skills (Cox, Griffin, & Hartel, 2017; Mansourian, 2009), curiosity (Gorichanaz, 2019), and commitment (Fulton, 2009; Lee & Trace, 2009.

It's not just the activity of doing serious leisure that may have these benefits. Gorichanaz (2019) notes that information activities "were experienced as part of the person's identity" (p. 1306). In her study, Ross (1999) concluded the activity of reading awakened new perspectives and possibilities among her participants. Information seeking and acquisition of serious leisure topics have often been reported as enjoyable (Fulton, 2009). Studies like this challenge the idea that information seeking is a negative experience (Gorichanaz, 2019). However, Gorichanaz (2019) cautions viewing information seeking in dualistic terms: negative/positive. It is important to recognize situations in life are complex and full of meaning that complicates the good versus bad dichotomy (Gorichanaz, 2019).

Moreover, many scholars argue that serious leisure plays an important role in our understanding of information behavior. In papers on serious leisure, authors highlight the treasure trove of information behavior within serious leisure information seeking activities. As serious leisure is so complex, it is deeply reliant on information in order for individuals to acquire knowledge, skills, training, and experience (Stebbins, 2009). This suggests that serious leisure has much to offer to librarians and information scientists (Stebbins, 2009). The information richness of serious leisure stems from how it is constructed on information-rich social worlds (Hartel et al. 2016, Hartel, 2016). Stebbins (2009) states that certain serious leisure activities have complex social organizations which "generate a huge need for retrieval and dissemination of information among participants" (p. 622). Moreover, looking for inspiration and driving one's creativity today is not only information-laden, but can also be varied, idiosyncratic, and ubiquitous

(Hemmig, 2009). There are also peripheral information seeking practices that may arrive unexpectedly, occurring out in the real world where they may be enriched, challenged, replaced, or more (Gorichanaz, 2019). However, it's not just information that serious leisure participants look for. Yakel (2004) and Mansourian (2020) highlight that serious leisure participants also seek out meaning.

Within serious leisure, scholars often highlight the benefits of serious leisure to both the field of information behavior and its participants. Researchers emphasize the richness that serious leisure offers to information behavior. Many papers that discuss serious leisure argue that hobbies have intrinsic value, leading to significant benefits and actualization of the self.

The Information Source Horizon Map

A major component of this research study is using a type of visual-spatial metaphor called the information horizon to gather data, specifically the information source horizon map. An information horizon is a type of pictorial metaphor that grew out of the fertile soil of verbal metaphors (Hartel & Savolainen, 2016). The information horizon was first introduced by Sonnenwald (1999) as part of a framework to investigate information behavior. Sonnenwald's (1999) information horizon concept posits that individuals navigate a densely populated space, a horizon that encompasses their resources, which is determined both "socially and individually for situations and contexts" (p. 8). The resources that information horizons encompass are varied; from information retrieval tools to social networks, and documents (Sonnenwald, 1999).

Sonnenwald (1999) rather than considering reflection and evaluation as linear, she views it as a dynamic process. Reflection and evaluation of resources are subject to pauses and are influenced by other processes (Sonnenwald, 1999). The information horizon avoids presenting reflection and evaluation as a linear process. Rather, the information horizon attempts to reflect the dynamic nature of reflection and evaluation (Sonnenwald, 1999).

By the time Sonnenwald first wrote about the information horizon, other spatial metaphors, such as the information use environment (Taylor, 1991) and information world (Chatman, 1992), had been developed (Hartel, 2017). When Sonnenwald (1999) introduced the information horizon, both these authors were discussed in her paper. Other similar metaphors have also developed since Sonnenwald's 1999 paper. Johnson, Case, Andrews, Allard, & Johnson (2006) discuss the metaphor of the information field in relation to the information horizon. They describe the information field as a static space that provides the individual's context for seeking information (Johnson et al., 2006). These information fields help determine a person's awareness or knowledge in different areas (Johnson et al., 2006). However, there is some flexibility. Through certain actions, individuals can maximize their surveillance by "arrang[ing] the elements of their information fields". (Johnson et al., 2006, p. 571). For example, a person could have a weight loss magazine subscription to better inform them on exercise and dietary information. The authors compare information fields and information horizons, concluding that information fields help determine the "general approach to an ultimate

goal" and information horizons relate to the "specific actions that result in the goal's accomplishment" (Johnson et al., 2006, p. 581).

Visual metaphors are growing increasingly popular as a tool to use alongside other research methods (Hartel, 2017) (Copeland & Agosto, 2012). Information horizons, specifically, have been shown to be a useful tool for exploratory studies (Sinn, Kim, & Syn, 2019). Additionally, information horizons are very flexible as researchers can easily modify them to suit their purposes in a wide variety of research topics.

Sonnenwald et al. (2001) apply Sonnenwald's (1999) earlier concept. For every context and situation, there is an information horizon map that has a variety of resources. These resources each have particular values which are determined individually and socially for a person (Sonnenwald, Wildemuth, & Harmon, 2001). They focus on understanding students' preferences, the order resources are typically accessed, incoming and outgoing arcs between resources, and the impacts of different situations and contexts (Sonnenwald et al., 2001) (Sinn et al., 2019).

Savolainen similarly focuses on information preferences (Savolainen, 2007) (Savolainen, 2008) (Savolainen & Kari, 2004). However, Savolainen and Kari (2008) define the information map differently. They interpret the information horizon as an information source horizon map, meaning that it is an imaginary field that the individual stands in front of (Savolainen & Kari, 2004). The closer resources are to the participant, the more significant those resources are to the individual (Savolainen & Kari, 2004). Centrality and periphery also play a role; the individual's view of the horizon is limited by their field of vision (Savolainen & Kari, 2004). However, the horizon extends far

beyond and behind an individual's vision (Savolainen & Kari, 2004). The less central those resources are to the participant, the less significant those resources are to the individual (Savolainen & Kari, 2004).

In Savolainen and Kari (2004) and Savolainen (2007, 2008), they dissect the information horizon into three zones. Savolainen (2007) explains that this dissection of the horizon is influenced by Schutz (1970) and Schutz and Luckmann (1973) where they describe different regions of varying relevance. However, Savolainen (2007) only incorporates three categories: the world within our reach; the world within potential reach; and periphery for marginal interest. Savolainen (2008) later adds another spin to information source horizon. He incorporates the concept of information pathways or sequences as proposed by Johnson et al. (2006) (Savolainen, 2008). Savolainen (2008) uses information steps as ways to further explore information source horizons as sequences can help illustrate the sequential steps of the resources that individuals use or intend to use. As a result, it creates a fuller and more dynamic picture of an individual's relationship to their information resources (Savolainen, 2008).

In contrast to Sonnenwald, Wildemuth, and Harmon (2001), Savolainen and Kari (2004), and Savolainen (2007) which consider an individual's information horizon, Huvila (2009) uses information horizons to depict representations of user type. He creates information maps in order to apply analytical information horizon maps (Huvila, 2009). The analytical information horizon differs as it symbolizes a particular work role rather than any particular individual. These analytical information horizon maps depict a birds-eye-view of information behavior related to work roles as well as their respective

information objects (Huvila, 2009). Huvila's (2009) information horizon maps are not only designed to organize information resources, but they are also designed to highlight both the depth and breadth of the information horizons. A deep and narrow information horizon focuses on a less varied, but more significant selection of information recourse types (Huvila, 2009). In a broad information horizon, the person in that work role views a greater number of resources to be potentially more significant (Huvila, 2009). Similar to Savolainen and Kari (2004) though, the analytical information horizon map represents a perceived reality. However, it does not incorporate the relationship between distance and relevance (Huvila, 2009). Instead, Huvila (2009) uses distance to represent progress and effort in the information process.

Sinn et al. (2019) expand the uses of the information horizon further. Rather than considering information resources or objects through the information map like Huvila (2019), Sonnenwald et al. (2001), Savolainen and Kari (2004), and Savolainen (2007, 2008), Sinn et al. apply the information horizon in order to reflect information behaviors, such as browsing, searching, and sharing. They argue that by using the information horizon to represent information behaviors, it can better explain the relationship between information sources and context (Sinn et al., 2019).

How information horizons are represented also varies a great deal. As discussed previously, Savolainen (2007, 2008) and Savolainen and Kari (2004) describe information source horizons as having zones. Savolainen and Kari (2004) instruct their participants to draw out their information source horizon map using this idea of zones. However, in Salvolainen's (2007) article, he places the individual's chosen resources into

zones based on participants' drawn horizons. Sonnenwald et al. (2001) give their participants far more freedom in terms of representation, but eventually represent the data as matrix and node diagrams (Sonnenwald et al., 2001). Like Huvila (2019), Sinn et al. (2019) use their data gathered to create the information horizons rather than have participants create their information horizons, representing the information horizon as radar charts.

Different studies use information horizons for a variety of users and topics. Sonnenwald et al. (2001) apply the information horizon concept on a group of lower socioeconomic students in order to evaluate the impact of an electronic mentoring program. Savolainen and Kari (2004) and Savolainen (2007, 2008) are heavily influenced by Savolainen's framework (1995) on everyday life information-seeking. In Savolainen and Kari (2004), their study addresses the role of the internet in everyday life information seeking for self-development, stating that "questions of preference criteria for sources and channels are central to [everyday life information seeking]" (p. 416). Later, Savolainen (2007, 2008) applies the concept of the information horizon and the everyday life information seeking framework in order to investigate the information behavior of environmental activists. Huvila (2009) applies information horizons to the work of Nordic archaeologists. Sinn et al. (2019) study college students' information activities regarding personal information management. Dr. Jenna Hartel adopts the information horizon map as a teaching mechanism for her students to undertake original and scholarly research (Hartel et al., 2018).

Lastly, information horizons have been used for both qualitative and quantitative analysis. Huvila (2009), applies only qualitative analysis while Sinn et al. (2019) use quantitative analysis alongside the information horizon. Savolainen and Kari (2004), Savolainen (2007, 2008), and Sonnenwald, Wildemuth & Harmon, 2001) combine both qualitative and quantitative analyses.

Due to the limitations of using a visual metaphor alone (Copeland & Agosto, 2012), most studies combine information horizons with another investigatory technique. Sonnenwald et al. (2011) combine the information horizon maps with semi-structured interviews and think aloud techniques in order better prepare participants to draw their own information horizon maps. The semi-structured interviews gave the researchers an opportunity to encourage their participants to think more about their information seeking behavior (Sonnenwald, Wildemuth, & Harmon, 2001). Huvila (2019) also utilized semi-structured interviews, combining it with "freeform thematic discussion and storytelling" (p. 19). Similarly, Savolainen (2007) incorporated interviews. He used the interviews to compare the interview data to the information source horizon maps to check for discrepancies (Savolainen, 2007). In Sinn et al.'s study (2019), the radar charts are informed by hypothetical situations to which their participants responded in a survey, detailing how likely they would be to use these pre-defined sources for their information activities.

The information horizon is a flexible and adaptable tool used for a variety of topics and purposes. It is not restricted to one topic or to either quantitative or qualitative analyses. Sometimes the information horizon is closer to how Sonnenwald (1999)

originally envisioned it and then later used in a collaborated study (Sonnenwald, Wildemuth, & Harmon, 2001). Other times, it can be significantly transformed (Sinn et al., 2019).

Research Questions

The intent of this paper is to explore the information preferences and the types of resources that are preferred by maker hobbyists before and after a single research session. The scope is limited to where search and communication can only take place through technology. Under the serious leisure perspective, this hobbyist type would be considered a maker under the makers and tinkerers category. This research paper asks the following questions:

- What types of resources do hobbyists prefer?
- What criteria do hobbyists use to determine resource preferences?
- What can information source horizon maps tell us about how a hobbyist's information preferences evolve over a single research session for that hobby and associated project?
- From the data and analysis carried out, what are the recommendations for creating LibGuides to assist maker hobbyists?

Methodology

Positionality / Researcher Role

The author was responsible for creating the structure and questions of the hobbyists' diaries as well as preparing video instructions for participants. The author is involved in various hobbies that fall within the maker-type category, including knitting and baking. Thus, the author recognizes her personal experience and involvement in various crafts may influence this research. The author likes to search for ideas to help inspire herself and often uses many different resources to create a "thing". The author's assumptions were that the participants were expected to persevere with their research and that they may also use various resources in order to create their chosen "thing". Because this research is focused on "using the body" to create a "thing", the author expected that the participants would be more drawn towards embodied information.

Sample / Research Participants

The population of interest is maker hobbyists who engage with serious leisure. These maker hobbyists must have at least some experience in their chosen activity. Additionally, this population is comfortable using digital devices to carry out information seeking. The sampling unit is the individual hobbyist who participates in the study. The study uses two types of sampling methods: convenience sampling and purposive sampling. Convenience sampling was chosen for its simplicity and because it requires the

fewest resources (Daniel, 2012). Convenience sampling has a number of weaknesses and is not as reliable as other sampling methods. It can cause the most readily accessible or visible elements of the population to become overrepresented in the data (Daniel, 2012). Conversely, it can lead to the under-representation of population elements that are hidden, not readily accessible, uncooperative, or vulnerable (Daniel, 2012). Additionally, convenience sampling can underestimate the variability of the population (Daniel, 2012). These limitations are justified since it requires the fewest resources. As the author is a graduate student, her resources are limited. However, there are some purposive sampling elements within the sampling frame chosen.

Purposive sampling was chosen because this research is focused on the specific population of maker hobbyists. Thus, the purposive sampling subtype being used is "judgement, criteria, or specialized knowledge" (Daniel, 2012). Only participants who completed all diary entries will be discussed. Because expert sampling is being used, there may be a greater risk of unintentional bias against the studied person's beliefs (Daniel, 2012). Much like convenience sampling, purposive sampling is also likely to underestimate hidden populations (Daniel, 2012). However, purposive sampling is justified as there will be greater control over who is selected (Daniel, 2012). It is more appropriate for research that targets particular segments of a population (Daniel, 2012).

The researcher sent out an email through a number of department listservs at University of North Carolina at Chapel Hill in order to recruit participants. Participants were recruited from the University of North Carolina at Chapel Hill student and employee body. Participants interested in the study were asked to reach out to the researcher via a reply email. Purposive sampling helped to define the criteria, but

participants were also selected based on convenience. Participants who fit into the category were selected on a first-come, first-served basis. Participants were chosen based on whether or not they fell into maker hobbyist category; their hobby had to be some kind of craft. Participation was not restricted by age, gender, or any other demographic information, with the exception that all participants were required to be over 18 years of age. In the end, more than 10 people showed interest. However, only 7 finished the study.

Data Collection Methods

Data collection and onboarding tasks were carried out remotely; the principal investigator never communicated with participants outside of email. Participants received an email that outlined the study's structure, linked to the diary entries, and provided onboarding materials. The first diary entry asked participants to consent to the study. At the end of the study, all participants received a $20 Amazon gift card thanks to the support of the Carnegie grant from the School of Information and Library Science at University of North Carolina at Chapel Hill. Listed below are the sequential steps of the study taken for data collection:

1. Participants reviewed the email
2. Participants completed the first diary entry
    a. Participants were asked to read the consent form and consent to the study
    b. Participants were asked to describe their selected hobby and project for the study and what they hoped to achieve by conducting their chosen research

3. Participants watched onboarding videos
    a. The first video introduced the structure of the study and informed participants about the informed consent process
    b. The second video explained how to draw an information source horizon map
4. Participants completed the second diary entry
    a. Participants were asked to draw their first information source horizon map
    b. Participants were asked questions regarding why they placed resources into certain zones on their completed information source horizon map
    c. Participants were asked why they thought these resources would be helpful
5. Participants carried out an online search session for their chosen hobby project
    a. Participants were instructed to carry out research on their chosen hobby
    b. Participants were instructed to use only online resources to conduct their research
6. Participants completed the third diary entry
    a. Participants were asked to draw their second information source horizon map
    b. Participants were asked what resources they found the most helpful and least helpful
    c. Participants were asked why their second information source horizon map had changed from the first one that they drew, if it had changed at all

   d. Participants were asked if they were surprised by their second information source horizon map changing or not changing
   e. Participants were asked if they found all the information that they needed
   f. Participants were asked if they had any final reflections
7. Participants received a $20 Amazon Gift Card

Data was collected through diary entries created through three Qualtrics forms. The term "diary" reflects the descriptive and reflective nature of the questions. Participants were asked questions that solicited descriptive textual responses. Participants were not asked to rank statements, unlike in many other surveys. However, in order to make the diaries less intimidating, they were referred to as "questionnaires". Participants were asked to complete diary entries after the completion of their research, preferably on the same day as they conducted their research. Participants were asked if they completed their final diary entry on the same day as their research session. This allowed the researcher to know how "fresh" the data was and allowed the participants some time flexibility. Diaries also included questions on the participants' information source horizons and resource preferences.

Diaries were used because, due to the Covid-19 pandemic, it was important to use a data collection method that allows for social distancing. Diaries are useful for phenomena that are private, internal, and situationally inaccessible (Wildemuth, 2009). Diaries are useful for recording information around the time of the event and are suitable for longitudinal studies (Wildemuth, 2009). However, as diaries are written by the participants, they are prone to unconscious or conscious editing, underreporting,

recording errors, and variations in an individual's writing skills and levels of self-reflection (Wildemuth, 2009). It also places a degree of burden on the subjects and the researcher as it requires pre-testing, training, and analysis of the data (Wildemuth, 2009). Unfortunately, due to time constraints, the principal investigator was unable to pre-test participants' diary entries. This is a weakness in the study's methodology. However, the researcher did receive feedback for the diaries from her master's paper advisor.

In this study, information source horizon maps were considered a type of pictorial metaphor as participants drew representations of their information source preferences. Pictorial metaphors give more freedom to the participants, allowing them to express their ideas in a highly creative way. However, if participants are uncomfortable with drawing, they may feel constrained (Wildemuth, 2009). Drawings can also be highly variable between participants and usually require extra explanations in order to be interpreted by the researcher (Wildemuth, 2009). The information source horizon maps used in this study are more structured than most pictorial metaphors, drawing from Savolainen's methods (2008), participants were asked to place their source preferences in three different zones of their information source horizon maps. These source preferences will be labeled within the zones through text. As a result, expressive freedom was reduced, but the researcher benefitted from increased consistency of the data. Lastly, in order to further compensate for the weaknesses of pictorial metaphors, the diary entries were used to better understand why participants placed their resources in certain zones.

This study was only concerned with participants' information source horizons maps. It was not concerned with participants' information processes or search strategies.

Regarding the information source horizons maps, this study used Savolainen's (2008) information source horizon maps as described in his study. Gaze and distance play important roles in the imagery of information source horizon maps. Like Savolainen's conception of the information source horizon map, the kind of horizon used in this study is an "imaginary field, which opens before the 'mind's eyes' of the…information seeker" (Savolainen, 2008, p. 418). In this study, the information source horizon maps were made up of three zones which represented decreasing levels of helpfulness or importance: Zone 1, Zone 2, and Zone 3. Zone 1, the closest to the actor, represents the most helpful resources, while Zone 3, the furthest away from the actor, represents the least helpful resources. Placement within each zone also carries weight. More centrally located resources are considered to be more directly in viewer's gaze, and thus are of greater importance.

It is important to recognize that information source horizon maps are subjective. The actors judge where each resource should be placed in the information source horizon map based on their subjective understanding of each resource's relevance. In this study, relevance is defined by helpfulness. Participants are asked why they view resources as helpful or unhelpful. Savolainen suggests that information source horizon maps are "created in a broader context which may be defined as a perceived information environment" (Savolainen, 2008, p. 277). Meaning that the information source horizon map does not represent the entire information environment (Savolainen, 2008). Rather, the information source horizon is built from what the actor perceives; it does not represent all the resources available to the actor, but only a selection of resources

(Savolainen, 2008). This perception can be informed by the actor's experiences over time (Savolainen, 2008).

Information source horizons have several key benefits. First, they are much less labor intensive than direct observation of information behavior (Sonnenwald et al., 2001). Second, horizons can be help stimulate participants' thoughts and recall (Hartel, Oh, Nguyen, 2018). Third, pictorial metaphors can help capture subjects that may be difficult to express with words (Hartel et al., 2018). In this study, information source horizon maps proved to be a useful point of discussion for participants in their diary entries, helping to orient their thoughts and giving them an opportunity for self-reflection.

In order to on-board participants to the study, participants were asked to watch two short videos. These videos were hosted on YouTube. The first video explained the study's structure as well as the informed consent process. Participants were told that they could leave the study at any point. In the first video, participants were informed that they would be allowed to skip any questions without needing to give a reason for doing so. Within each Qualtrics form, it was re-iterated that participants would not have to answer any question if they did not want to.

The second video explained what information source horizons were and how to draw an information source horizon map. Participants were told that they could use any method they wished to draw their maps. Within the Qualtrics forms' second and third diary entries, participants were also given a link to a Google doc that explained information source horizon maps. The researcher asked for and received feedback from friends regarding whether the videos clearly explained the study's structure and information source horizon maps. The videos' scripts and slides are also attached to the

appendices F, G, H, and I. Listed below is the URL of a YouTube playlist containing the onboarding videos:

https://www.youtube.com/playlist?list=PLpXjGnA1ya_IoWCZcOPH96qNV6_HUavqF

During the study, participants used a variety of mediums to create their information source horizon maps. Most participants drew their information source horizon map using pen and paper. Other participants chose some kind of application to draw their information source horizon map, such as Microsoft Word. One participant used the outline of an example information source horizon map given among the participation materials, filling it with their selected resources.

Data was analyzed using a qualitative content analysis approach as it "allows researchers to understand social reality in a subjective but scientific manner" (Wildemuth, 2009, p. 308). Qualitative content analysis also assists with "inductive [analysis], grounding the examination of topics and themes, and interferences" (Wildemuth, 2009, p. 309). Lastly, this type of analysis was appropriate for the chosen sampling as the researcher was interested in the range of meanings of the phenomena rather than their statistical significance.

Impact and Limitations

There are a number of limitations to the type of methodology and analysis being used. First, content analysis is not good at answering "why" questions. Additionally, the information horizon concept is still in its infancy. The biggest limitation, however, to this

research paper has been time. As the researcher would like to graduate by May of 2021, this master's paper has very particular time constraints. As a result, the data analysis and writing steps have had a condensed timeline. For limitations on sampling methods and data collection methods, see previous sampling and data collection sections.

The sample size has been purposely limited to a maximum of ten people. The scope has been reduced to only the maker hobbyist subtype. It has purposefully not been reduced further to any particular hobbyist activity. The study is not limited to a particular age, group, location, expertise level, economic, or social background. This reduces generalizability, but since this is a qualitative and exploratory study, it is not concerned with generalizing.

Lastly, another limitation related to sampling is that this study did not choose a particular hobby to examine. This decision was made as the principal investigator was concerned with acquiring participants. Thus, she decided to expand the scope of the study. However, the principal investigator did not expect so many of the participants' hobbies to be so similar; most of the hobbyists either knitted or crotched. This weakness likely arose due to the use of convenience and purposive sampling frames, which may lead to an overrepresentation of certain population elements (Daniel, 2012). As a result, the study is not as focused as it could have been, and its generalizability has been further reduced.

Regarding the paper's impact, the only stakeholder is the researcher who must complete this master's paper in order to successfully complete her degree. The results may or may not support the use of information source horizon maps. The results may or may not support the transferability of certain models or confirm other studies. This study

may improve understanding of the types of information and source preferences of craft hobbyists. The results may or may not be useful for LibGuides intended for particular maker hobbyist activities. There should be little impact on the participants' workplace as the study is concerned with their hobbies and participation is likely to take place at home.

There are a number of limitations with the combination of information source horizon maps and diary entries. First, drawing horizons add a greater burden on the participant (Hartel et al., 2018). As the principal investigator was unable to interview participants after they completed their horizons, the study was never able to illuminate any details or decode any ambiguities in participants' horizons. However, by using the diary entries, at least some contextual data was able to be gathered. Thus, triangulation was provided and the risk of decontextualization was diminished, but not wholly eradicated. Additionally, participants may record a different number of resources on their horizons (Hartel et al., 2018). However, in this paper, the number of resources depicted on a horizon between participants was not drastically different. Lastly, since this study was carried out remotely, without the use of video communication software such as Zoom, the principal investigator was unable to give any direct verbal guidance on information source horizon maps. As a result, some differences in interpretations were expected. Some participants interpreted the principal investigator's video explanations differently than intended. Some of the participants believed that they had been asked to list all the resources that they used, even if they found that resource extremely unhelpful.

Research Quality and Ethical Considerations

Trustworthiness, credibility, dependability, transferability, and confirmability were created through a number of methods. Credibility and dependability were established through triangulation and by data analysis using multiple models. Thick description of the methods, contexts, and subjects were provided. The codes used in this study were provided in Appendix J. The research was grounded in both cognitive and affective behavior theories. Raw data, such as quotes, were included as examples within the study's discussion. Any data that contradicted the researcher's main points were also addressed. The researcher has also stated her position and relationship to the research topics and subjects. Confirmability was created by maintaining an "audit trail" of research instruments, data, and interpretations.

A number of ethical concerns were considered. Privacy was one of the main concerns as the researcher wanted to establish confidentiality. Confidentiality was maintained throughout the study and any identifying information was obfuscated in the study's discussion section. Identifying information included the names and emails of the participants. This was the only identifying information collected. This information was destroyed at the end of the study. In order to confidentially discuss the data, each participant was given a random numerical identifier.

Another ethical concern was ensuring that participants had all the necessary information needed for informed consent. Information was provided by a number of

methods: email, consent form, and video onboarding. Before beginning their participation, participants were asked to read and agree to an informed consent (Appendix C) form located in their first diary entry (Appendix D). At multiple points, participants were informed that they could withdraw their participation at any time. The researcher followed the ethical obligations as outlined by the Belmont Report: respect for persons, beneficence, and justice.

The researcher also sought to establish trust with the participants. In the consent form and onboarding video, the researcher explained that although they may be able to recognize themselves in the data, others cannot because identifying features, such as names, locations, and titles will be obfuscated (Birch & Miller, 2012). In order to help avoid deductive disclosure, details that were obfuscated in the study included the specific details of project's techniques and output, names, ages, and genders. Participants were referred to as "they" in order to further protect their identities.

Results and Discussion

Participants' Projects

Out of the eleven participants who signed up, only seven completed all three diaries. Research sessions took place in step 5 and lasted between 15 and 60 minutes. The average research session was 40 minutes. All participants, except one, completed their final diary entry on the same day as their research session. Four of the participants chose a knitting project, two of the participants chose a crocheting project, and one participant chose a wood working project. Importantly, most participants wanted to use their project as an opportunity to learn a new technique. For example, a participant chose to knit a [type of accessory] in order to learn [name of specific technique]. Another chose to knit a [type of clothing] with a [name of specific technique]. A third decided to knit a winter [type of clothing] in order to learn the [type of clothing]'s "appropriate stitches". Participants who were interested in learning new techniques explicitly mentioned a kind of technique in their project or session goal along with a particular object they wanted to make. One participant was only interested in learning a particular technique that they had seen, writing that "my project for this study is a crochet technique called [name of specific technique]".

Two other participants were more concerned with the outcome of their projects, a [style of table] and [type of clothing], rather than the learning process. ID 8 wrote that they wanted to find a "building plan" that was "easy and simple" within their financial

constraints. ID 10 wished to make clothes they would “like to wear more regularly”; something that they had not crocheted before. Similarly, ID 6 was also concerned with the outcome of their project, but they were especially interested in their choice of yarn. ID 6 knew what clothing item they wanted to knit. However, ID 6’s choice of yarn would determine the style of clothing they chose: “My project is researching yarn substitutes for a [type of clothing] that I want to knit. I have several [type of clothing] that I want to knit and finding a good substitute will help me narrow down which [type of clothing] to knit first”.

Among the participants, there were a variety of types of projects that participants were interested in completing. Most participants wanted to learn a particular technique and create a specific object. Others had a very specific goal, such as a particular object, technique, or material in mind. To these participants, other aspects of their projects were secondary.

Participants were asked to place resources into three different zones: Zone 1, Zone 2, and Zone 3. Zone 1 represented the closest zone to the participants, while Zone 3 represented the farthest zone. The closer a resource is placed to the participant, the more it is considered helpful to them. For example, a resource placed in Zone 1 is considered the most helpful, a resource placed in Zone 2 is less helpful than Zone 1, and a resource placed in Zone 3 is the least helpful in comparison to all the other resources placed. Fig. 1 provides an illustrative example of a person looking out towards their information source horizon map.

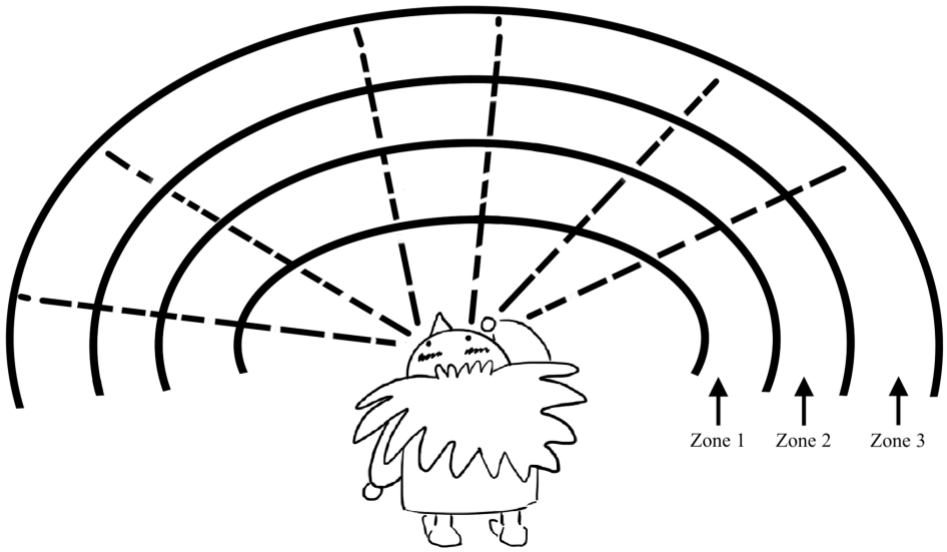


Fig. 1. Person looking out towards their information source horizon map

The following six sections will discuss the resources used by the participants: Social Media and Other Web Communities; The Act of Visualizing and YouTube; Blogs; Instructions, Tutorials, and Patterns; Shopping Websites; and Personal Social World. These six sections will examine the reasons why the participants viewed their chosen resources as helpful or unhelpful. In the section entitled Determining Helpfulness - The Financial Cost Factor and Determining Helpfulness - Inspiration/Preference, special attention will be paid to two interesting criteria applied by participants when evaluating resources: monetary cost and inspiration/preference. Additionally, since the study asks participants to predict what resources will be helpful, this paper will consider whether or not participants' predictions were correct and how their horizons changed in the section: Do participants have a good idea of useful resources? In the section entitled Applying Bates' Model, Bates' model of fundamental forms of information will also be examined

in the context of web resources. Lastly, the section, Hobbyist LibGuide Recommendations, will seek to give recommendations to librarians looking to create LibGuides for maker hobbyists.

Social Media and Other Websites

A variety of websites and social media were often brought up by participants in both their maps and diary entries. These social media websites ranged in how specifically they related to their hobbies. Some websites, such as Pinterest, Instagram, TikTok, and YouTube, were more generalized and encompassed a wide variety of topics and activities. Other websites, such as Ravelry (a popular knitting and crocheting website), allfreeknitting, and Lowes, were specifically focused on a particular topic or activity. Regarding more specific hobbyist websites, a number of sites were brought up. As expected, websites preferences were closely aligned to a participant's chosen hobby. As discussed previously, one of the limitations of the study is that it did not choose to look at only one hobby type. Most of the hobbyists were either involved in knitting or crocheting with one participant being interested in woodworking. As a result, the study lost some depth in its investigation. However, it is a qualitative, explorative study which does not seek to generalize. Although YouTube is also a social media website, due to its prevalence and uniqueness as a resource it will not be discussed in this section. Instead, it will be discussed later.

Prior to their search sessions, two participants placed more generalized social media sites into Zone 2 for "inspiration" reasons. ID 6 often used Instagram "to look at different interpretations of [type of clothing]". Even though Instagram does not have as

much information as other social media sites, such as Ravelry, ID 6 often finds "inspiration" from Instagram which will eventually lead them to Ravelry. ID 9 placed TikTok in center of Zone 2 because TikTok first inspired ID 9 to carry out their chosen project. However, ID 9 left TikTok in Zone 2 as they do not normally find the TikTok search function to be "as helpful as YouTube". Moreover, ID 9 wrote that "it's harder to learn from TikTok tutorials since videos can only be a minute". As a result of this limitation, ID 9 explained that TikTok tutorials are not as in-depth. Three participants placed Pinterest on their first maps. Both ID 9 and ID 2 used Pinterest as a tool to find patterns on other websites and placed Pinterest in Zone 1. ID 9 wrote that they normally use Pinterest to browse patterns. ID 2 stated that they found Pinterest's "related suggestions more helpful than Google". ID 6, on the other hand, placed Pinterest in Zone 3. Rather than using it as a tool to find other patterns, ID 6 presented Pinterest as a good resource "for figuring out color choices". Prior experience also impacted ID 6's decision to place Pinterest in Zone 3. Previously, ID 6 stated that they "don't use [Pinterest and blogs] very often to plan projects". Reddit, another generalized social media website, was mentioned only once by ID 9. They placed Reddit on the periphery of Zone 3 as they are aware that Reddit "would likely have relevant information…but [they] don't normally use [Reddit and other sites] for crafting information".

After their search session, there was a noticeable change in participants' maps regarding these more generalized social media sites. Instagram fell off ID 6's map. ID 7 added Instagram to Zone 2, but they gave no reason as to why, showing a discrepancy between their map and diary entry. In the end, both ID 6 and ID 9 were disappointed by Pinterest for the same reason, saying that it was the least helpful resource due to the lack

of free patterns. As will be discussed later in the section entitled Determining Helpfulness - The Cost Factor, financial cost was an important factor in determining the helpfulness of a resource, often leading to Pinterest being moved to less important zones. For ID 6, Pinterest and Instagram were removed in their post-search map because it ended up being less important to them. ID 9 removed TikTok and Reddit from their map but gave no reason why. This author suspects that TikTok was removed because TikTok's helpfulness had ended. Although it had inspired ID 9's project, TikTok was not particularly useful for continuing the project. ID 9 may have removed Reddit because it was never used.

Three participants who used yarn as their material brought up Ravelry in their diary entries. Prior to their search session, two of the participants, ID 5 and ID 6, placed Ravelry in the center of Zone 1. Conversely, ID 9 placed Ravelry in Zone 3. Both ID 5 and ID 6 referred to Ravelry as "great". ID 5 was less detailed than ID 6 in their explanation of why they believed Ravelry was great. However, ID 5 stated clearly that they use Ravelry for patterns. ID 6 specifically explained that Ravelry is "great" because they can use it to compare yarns and read comments regarding personal experiences about the yarn. ID 9 placed Ravelry in Zone 3 for the same reasons they placed Reddit in Zone 3 in their first horizon: they do not normally use Raverly. ID 9's use of Ravelry is limited to sometimes downloading patterns, but they generally don't use it as a tool to search and find patterns. For this seeking activity, ID 9 uses YouTube or Pinterest.

After their search session, ID 5 and ID 6 found that Ravelry aligned to their expectations. ID 5 and ID 6 both stated that Ravelry was the most helpful website, albeit, for different reasons. For both of these participants, Ravelry remained firmly in central

parts of Zone 1 in their second horizons. Per ID 5's expectations, they wrote that Ravelry was "most helpful for finding patterns". ID 6 found Ravelry the "most helpful" as it allowed them to toggle back and forth between the original design and how other knitters interpreted the pattern. They also found it helpful for its technical information, such as yardage requirements, type of yarn, schematics, etc. Thus, per ID 6's expectations, Raverly was useful to help them learn about other knitters' personal experiences. As for ID 9, Raverly was no longer included in their second horizon or final diary entry. The participants' wide-ranging opinions show diverse intentions towards using the same website.

There were a number of websites which were mentioned only one time. ID 6 mentioned a resource called Yarn Sub where a user can enter a yarn brand and find suitable substitutes. This website seemed very useful for ID 6's project goal of finding a suitable yarn. Thus, in their first horizon, ID 6 placed Yarn Sub in the periphery of Zone 1. However, after their search session, ID 6 removed Yarn Sub from their map because Ravelry and a shopping website fulfilled their objectives instead. ID 6 also listed designer websites in their horizons and diary entries. Initially, ID 6 located designer websites in the periphery of Zone 2 in their first map, but moved this resource type into the periphery of Zone 1 in their second map. For their first map, ID 6 reasoned that designer websites might be useful because they sometimes list alternative yarn choices. Although ID 6 moved designer websites into zone 1 after their search session, they did not mention it in their diary entry, showing a discrepancy between their information source horizon map and diary entry.

ID 2 brought up a website called allfreeknitting, a magazine-like website that shares knitting techniques and free patterns. In their first map, ID 2 placed allfreeknitting in Zone 2, writing it as "Google search (allfreeknitting, intheloopknitting)". Although only mentioned by one user, allfreeknitting was very important for ID 2. After their search session, ID 2 placed allfreeknitting in the center of Zone 1. ID 2 found allfreeknitting to be most helpful due to a YouTube video embedded in the webpage. Thus, on their map, they presented this resource as "allfreeknitting with imbedded YouTube video", showing how different resources can be combined to become the most helpful for a user.

Although not technically a website, ID 7 brought up looking at images of completed [type of clothing] as a potential useful resource. In their first entry, they explain that they placed this resource and some other resources in Zone 2 because they "plan[ed] to go to this zone and get deeper information and have more details than [they] would originally find in Zone 1". However, the images of a knitted [type of clothing] proved to be one of their least helpful resources as they were "mainly images of the completed project, and did not show how to actually do it". As a result, looking at images of completed [type of clothing] was pushed to the periphery of Zone 3 in their second horizon.

The Act of Visualizing and YouTube

YouTube was frequently mentioned positively among participants, often being reported as one of the most helpful resources. Many participants discussed YouTube in their diary entries prior to searching, placing YouTube either in Zone 1 or Zone 2. In their

post-search session entry, YouTube also frequently came up. ID 2, ID 5, ID 7, ID 8, ID 9, and ID 10 mentioned YouTube in their responses regarding what resources were the most helpful in their search session. The only participant who did not mention YouTube was ID 6. Interestingly, ID 6 was the only participant who was only interested in materials rather than technique or any other project details.

Participants gave a number of explanations as to why they placed YouTube in Zone 1. ID 2 wrote that the website, "allfreeknitting", was the most helpful because it had a "very clear YouTube tutorial imbedded with the pattern". ID 8 gave a number of reasons for why they found YouTube to be the most helpful. They stated that YouTube allowed them to watch several videos and compare and judge different building techniques. Moreover, the content creators gave full explanations of what they were doing as well as the sources and financial cost of their materials.

For some participants, watching YouTube videos were the most helpful in allowing them to visualize relevant actions. Prior to their search, ID 7 placed YouTube videos in Zone 1 because they will "help [them] to see [how to knit a type of clothing and its stitches] in action". Similarly, ID 10 placed YouTube videos in Zone 1 in their first horizon because "they give visual step by step instructions". When ID 10 explained why they placed "written patterns" and "asking friends" into Zone 2, ID 10 clarified that they have a "hard time visualizing patterns". Overall, ID 10 believed YouTube videos would be helpful because they prefer "lots of visual step by step guides".

After their search sessions, these participants re-iterated the importance of watching an action in order to visualize it. ID 7 wrote that YouTube videos were the most helpful as they helped to "visualize what was going on and see [how to knit a type of

clothing and its stitches] in action…allowing [them] to know exactly what [they] needed to do". This emphasized what they wrote prior to their search session. In comparison, ID 7 deemed images of knitted [type of clothing] and blog posts to be the least helpful as they "did not show how to actually do it". ID 10 found YouTube to be the most helpful as "it visually explained how to find the correct sizing for the shirt". Both ID 7 and ID 10 placed YouTube in the center of their vision in Zone 1.

Although ID 9 never explicitly spoke of the importance of visualizing and watching something in action, they explained that they find "written instructions…confusing when learning a new technique" and that YouTube is the "most useful tool when learning a new technique". Similarly, ID 2 wrote that YouTube was "better for complicated stitches [they have] never done, especially when the way they've described is confusing". ID 5 explained that YouTube "was the most helpful for learning new techniques".

Because of the strong visual associations with YouTube, YouTube may be useful for hobbyists who need a physical demonstration in order to visualize actions or for hobbyists who are learning a new technique.

Blogs

Blogs fall into a very similar sphere as social media since they are both constructed by the social world of the hobbyist. In this paper, blogs are not considered to be social media, but are viewed as closely aligned to the creation of a person's social world. Blogs were frequently mentioned by participants, but their helpfulness tended to vary between participants.

Prior to the search session, blogs were placed in a variety of zones. ID 7 placed blogs in Zone 2 alongside images of completed [type of clothing]. ID 6 listed blogs in Zone 2 as a potential resource because some yarn stores may also have blog posts. Similarly, ID 2 also placed a blog-related resource, intheloopknitting, into Zone 2. ID 2 stated intheloopknitting and allfreeknitting, have "lots of knitting pattern blogs". However, ID 2 placed these resources in Zone 2 because they can be "kinda hit or miss to find a pattern [they] actually like". ID 8 placed blogs that have tutorials in the central area of Zone 1. Whereas ID 10 felt that blogs were a "big miss" in their experience, causing them to place this resource into Zone 3. ID 5 did not explicitly add "blogs" into their first map, they mentioned blogs on Ravelry, which is a resource that they positioned in Zone 1.

In their post-research session maps and entries, opinions about blogs were less diverse, skewing to the negative. ID 7 called blogs the "least helpful". They did not explicitly state why, but ID 7 explained that their most helpful resource aided them with visualizing. This indicates that perhaps ID 7 found that blogs posts were not as helpful with visualizing. Thus, ID 7 moved blogs from Zone 2 to Zone 3. ID 6, who also originally placed blogs into Zone 2, removed blogs from their horizon since they "weren't important in this search". ID 8 initially placed blogs into Zone 1, but they removed them from their second map as they found blogs both unhelpful and financially expensive. ID 10 removed blog posts altogether from their horizon because they "completely avoided blog posts". ID 9 never placed blog posts in their first map. However, during their search, they came across a WordPress blog through a YouTube video. However, ID 9 did not like the pattern on the YouTube video and hoped to find

other [name of technique] patterns through the YouTuber's blog instead. ID 9 was unsuccessful as the YouTuber had no other links to [name of technique] patterns on their blog. As a result, ID 9 placed WordPress blog into Zone 3. After their searches, blogs tended to move towards Zone 3 for a variety of reasons, such as monetary cost, lack of relevant material, unimportance, or general unhelpfulness.

Instructions, Tutorials, and Patterns

Another important set of resources were instructions, tutorials, and patterns. Instructions, tutorials, and patterns were often discovered on other resources, such as social media, online shopping websites, or blogs. However, sometimes they were discussed without any specifics as to where the participants found the instructions or patterns. For example, ID 8 was both general and specific when they presented their resources on their first horizon, placing "blog tutorials" and "YouTube tutorials" into Zone 1 and "website tutorials (text)" and "website tutorials (images)" into Zone 2. In ID 8's second horizon, they generally maintained the same level of specificity, retaining "YouTube tutorials" and adding in "written instructions from websites". In their first horizons, ID 7 and ID 9 were both vague, placing "online patterns" and "patterns" respectively into Zone 1. ID 9 explained why they were vague. Instead of placing patterns in the center of Zone 1 like ID 7, ID 9 inserted patterns to the side, stating that they "will need to use another website that links to the pattern to find it". It is possible ID 7 and ID 9 were both vague because they realized that that they did not know exactly where this resource would be. However, neither explicitly stated this, so this is speculation. Additionally, language mentioning instructions, tutorials, or patterns appeared commonly

throughout the discussion of various resources, including Pinterest, Ravelry, and blogs. In post-search session horizons, instructions, tutorials, and patterns were only explicitly mentioned three times. They were written as “online patterns”, “written guide”, and “YouTube tutorials”. However, this does not mean that instructions, tutorials, and patterns do not appear. They more often appear in participants’ discussions about other resources, such as YouTube, Pinterest, Instagram, Ravelry, blogs, and other websites.

Arguably, this could be viewed as a discrepancy between participants’ horizons and diary entries. However, rather than viewing it as a discrepancy, this paper argues that some resources are more likely to be viewed as embedded into other resources. Although described with different labels, these resources, instructions, tutorials, and patterns, all represent a similar form of conveying knowledge. This knowledge can appear on a diverse array of other resources, likely explaining why some participants are both vague or specific when depicting them on their horizons. Because these resources are embedded into many different resources, participants assume they exist on their horizon, especially with limited drawing space. Whether instructions, tutorials, and patterns or resources, such as YouTube, Ravelry, and blogs, are considered the “birds-eye-view” is subjective. For example, ID 8 placed “website tutorials (text)” and “website tutorials (images)” into Zone 2 because they can “seek out” alternative resources that could lead them into their chosen resources in Zone 1. ID 9 viewed instructional materials differently. ID 9 listed patterns in Zone 1, stating that they will need to use “another website that links to the pattern to find it”. Thereby, showing different perspectives. However, since most participants bring up these instructions, guides, and patterns in their discussions of other resources, there is a tendency for participants to view instructions, guide, and patterns as

a way to drill down into other resources. Resources like YouTube, Ravelry, and blogs are top-level resources, while instructions, guides, and patterns are lower-level resources. Thus, instructions, guides, and patterns are more likely to be embedded.

Shopping Websites

Shopping websites were also listed as a potential resource. Their success depended on the participant and their project. ID 8 found Lowes, a shopping website, to be very important in their search. In both of their horizons, ID 8 placed Lowes in Zone 1, describing Lowes as "crucial for [their] research" because they needed to price out their project. Financial cost was a crucial factor for ID 8's project. ID 6 placed "yarn store websites" into their first horizon's Zone 2. Rather than using them to price out a project like ID 8, in ID 6's prior to search session diary entry, ID 6 explained that they intended to use shopping websites to find "blog posts or more yarn information for certain projects". After their search session, ID 6 stated that they found individual websites for yarn brands unhelpful, stating that they found it hard to "figure out where [they] could buy the yarn and how much it cost". However, they only looked at one yarn brand website. ID 6 also viewed an online knitting store, Knit Picks, that hosted many different brands. Knit Picks was more helpful than the individual yarn brand stores. ID 6 wrote that Knit Picks was very helpful because it allowed them to compare yarn colors. This was especially helpful as ID 6 wanted to knit a [type of clothing] with stripes. As a result, ID 6 placed Knit Picks into Zone 1. Through a store website, ID 10 found a craft store guide. They decided to search through this website because they often use it for yarn. However, ID 10 found the guide to be unhelpful because it was not "well written" and the

"stitch count didn't line up". Etsy, another online store, was mentioned by a number of participants. However, it was generally not discussed positively, as most participants were searching for free patterns. When it did appear on participants' horizons, it was always placed into Zone 3.

Thus, the success of shopping websites was based on the participant and their goals. If the participant needed to price out or purchase their materials, online stores played a bigger role and tended to appear in zones of higher importance after their search session. Both ID 8 and ID 6 preferred stores that presented more than one brand. If the participant sought free resources or did not wish to analyze prices or purchase materials, online shops were received less favorably.

Personal Social Network

Due to technology, there are many ways to communicate virtually. During the data collection, participants were informed that they could reach out to personal contacts as long as it was through a digital device. It was unclear if all participants interpreted this instruction regarding using contacts in the same way. A number of participants listed individuals from their personal social network on their horizons which resulted in mixed levels of helpfulness. ID 7 placed "in-person help" along with "asking a friend" and "messaging website" into their first horizon's Zone 3. Interestingly, ID 7 reported that this category of resource would be their "last option". ID 7 removed "asking a friend" from their second horizon because they realized they did not have any friends who could knit. ID 8 wrote "Lowes/Home Depot employees" in Zone 3 in their first horizon. ID 8 later removed this resource from their second horizon, while ID 7 kept "seek help in-

person" in their second horizon's Zone 3. However, ID 7 did not discuss this resource in their final diary entry.

In their first horizon, ID 8 placed "friend" in the periphery of Zone 2, saying little specifically about this resource. ID 8 only discussed the resources in Zone 2 more generally as a way to discover alternate resources or pathways to find resources that would lead into Zone 1. In ID 8's second horizon, ID 8 removed Lowes and Home Depot employees from Zone 3 as they did not use them. While ID 8 did not use "friend", "texting friend" was still represented in Zone 2.

For ID 10, contacting their friend was relevant, stating that their "friend…had made a shirt very similar to the one [they] wanted to make and was able to provide a lot of really helpful information in terms of sizing and hook recommendations". Interestingly, "asking friends" remained in the periphery of Zone 2 for both of their horizons. ID 2 also placed "ask a friend" on their horizon in Zone 2. However, rather than reach out to their friend, ID 2 moved "ask a friend" into Zone 3 because ID 2 felt like they needed to better understand the pattern before asking their friend, stating "I need to try to understand how the pattern works on my own before I ask a friend for help". ID 5 listed "ask friends" and "ask grandma", differentiating between two social resources. Unlike ID 2, ID 5 reached out to their friend. However, asking friends turned out to be the least helpful resource for them because their friends "did not respond in time while [they were] researching". As a result, ID 5 moved friends into the periphery of Zone 3. Since they never reached out to their grandmother, ID 5 removed their grandmother from the horizon. For ID 10, their friend was very helpful. ID 2 felt they needed more

knowledge before reaching out to their friends. ID 5's personal contacts did not respond in time.

Determining Helpfulness - The Cost Factor

When evaluating a resource's helpfulness, some of the participants were concerned with the financial costs associated with their project. As a result, it greatly impacted their search and their project. Many participants specifically sought out free plans or patterns. Participants viewed the internet as having many free resources. ID 9 stated that they "normally don't have a problem with find[ing] free patterns" and that "many people host patterns on blogs". However, ID 9 ended up struggling to find patterns that they liked. As a result, they had to "adjust [their] normal searching strategies to accommodate this challenge". ID 8 also faced difficulties finding a free plan which they liked, writing that they were "surprised by the scarcity of free plans" as they had recently completed a project using only a blog. One participant did not see the point of purchasing a pattern or instructions when there are so many patterns and instructions freely available on the internet. ID 2 stated that "they did not see [a] reason to pay for a pattern when there are so many free ones available!", emphasizing the cost of pricey Etsy patterns as "Etsy Patterns ($$$)" on their information source horizon map.

Financial cost strongly influenced the perceived helpfulness of participants' resources. ID 8 stated that websites with textual instructions were the least helpful because many of their plans were not free. As a result, websites with textual instructions were moved from Zone 2 in their first map to Zone 3 in their second map. For ID 8, they viewed their project as an alternative to purchasing something online, stating that they

will “weigh the costs, both financially and time-needed-to-complete against what I can find for sale online”. If their project did not fit their budget and was lengthy, they would buy a [style of table] instead. Thus, the Lowes website was “crucial for [ID 8’s] research” because they frequently needed to reference the financial cost of available materials. As a result, Lowes firmly remained in Zone 1 in both of their maps. ID 2 later mentioned that Pinterest was the least helpful because it mostly led to Etsy patterns which were for sale. Thus, Pinterest moved from the center of Zone 1 in their first map to the center of Zone 2 in their second map. Similarly, ID 9, who was also very interested in finding free patterns, found Pinterest unhelpful as they were “hoping to find some pins that would lead [them] to free patterns”.

Interestingly, ID 9 placed Pinterest in the periphery of Zone 2 in their first map. However, in their second map, rather than move it into a different zone like ID 2 and ID 8 did, ID 9 kept Pinterest in Zone 2 and placed it in the center of their vision. This initially contradicts what ID 9 wrote and was not in line with ID 2’s and ID 8’s maps. Perhaps this is because ID 9 stated that they did not have a “problem” with Etsy patterns. They also wrote that they pinned the patterns that they might buy later. Because this was their first project, ID 9 would have “preferred…a free pattern that [they] wanted to do…rather than either purchasing a pattern, making [their] own, or trying out a free pattern [they were] not as interested in”. Because ID 9 could not find a free pattern that they liked, they decided to try to create their own pattern instead. In order to do so, they used guidance from a free resource. However, “depending on how it goes”, ID 9 wrote that they may either use the pattern they design or purchase a pattern. Thus, ID 9 was likely viewing

Pinterest in terms of the long-term scope of their project, rather than focusing on their initial disappointment in the website's lack of free patterns which they liked.

For two of the participants, materials also played a role in their resource preferences. As discussed previously, ID 8 considered the Lowes website "crucial". Materials played a major role as cost was a significant factor in their project. For ID 6, materials were a significant component to their project where their choice of yarn would determine their [type of clothing]. ID 6 stated that their "main objective was to find yarn subs and color choices", rather than trying to find resources on a particular pattern, plan, or technique. ID 6's resource preferences were reflected in this objective. Before beginning their search, ID 6 wrote that "Ravelry is great because you can look at the different yarns people have used" as well as read commentary about the yarn. Color was also important to ID 6. They describe Knit Picks as helpful because it let them compare colors. This was useful because their design had stripes of different colors.

Determining Helpfulness - Inspiration/Preference

For three of the participants, inspiration and personal taste also helped determine their preferences. Among the participants, ID 6 most explicitly vocalized the importance of inspiration. In their first horizon, they placed Instagram into Zone 2 for inspiration reasons rather than for information, describing that they "often get inspiration from [Instagram]". In their second horizon, ID 6 stated that new resources, such as Knit Pick and *The Crown,* were placed into the horizon as they were looking for "color combinations for [their] [type of clothing]". ID 6 replaced Pinterest and Instagram with Knit Picks as they no longer needed them for inspiration. Instead, ID 6 used Knit Picks,

allowing them to easily view different colors. Interestingly, ID 6 used *The Crown,* a British television series, as one of their inspiration sources. During their search, ID 6 remembered that they liked some striped flags they saw in the series. Thus, they were inspired to add stripes to their [type of clothing]. Although not actively seeking out resources for inspiration, ID 10 was originally inspired by TikTok and decided to place TikTok on their first horizon in Zone 2, as a result. Thereby, emphasizing the importance of inspiration resources. ID 6's description of finding inspiration in *The Crown* and ID 10 encountering an inspiring TikTok video recall Gorichanaz's (2019) discussion regarding how peripheral information seeking practices may present themselves unexpectedly.

Personal preference also impacted some participants' resource preferences. After their search sessions, ID 9 and ID 8 used words such as, "like" and "prefer". ID 9 often wrote of finding "a pattern [they] like". One of their difficulties in choosing a free pattern was how difficult it was to find a pattern that they liked. As a result, they decided to make up their own pattern even though it was their first time using a new technique. ID 8 wrote that they saw YouTube as the most helpful because they were able to "make note of what [they] liked and didn't like". Although ID 2 never uses language, such as "prefer" or "like", they mentioned that Pinterest's pay-per-pattern options were more fashionable than those found on allfreeknitting. However, ID 2 appeared to be happy with allfreeknitting. When asked if they found the information they needed, they responded "I did! xD".

Depending on the hobbyist, inspiration and preference played varying roles of importance. Particularly for ID 6, whose project goal was specifically focused on making design choices, inspiration played a larger role than for other participants. Although

technique was a major focus for ID 9, they were also deeply interested in finding a design that they liked. ID 8 used the word "liked" about the YouTube videos in an ambiguous way. They did not specify whether they "liked" the design, technique, cost, or something else. However, regardless of what ID 8 truly liked, a hobbyist's evaluation of a resource may be impacted by personal preferences and experiences. This type of information behavior and resource preference draws from Bates' fundamental form: experienced information. It coincides with her description of out-of-conscious experienced information. For example, what information does a pianist draw on when they are told to "play with more feeling" (Bates, 2006, p. 2006)? Participants experienced feelings of "liking" or being "inspired" as something that came from inside of them, similar to out-of-conscious experienced information.

Do participants have a good idea of useful resources?

Interestingly, many of the participants were very aware that resources could lead to other, more useful resources. This type of information seeking aligns with Bates' berry-picking model (Bates, 1989). Information seeking is not a straightforward arrow, but a one-berry-at-a-time type of retrieval which can lead to new ideas and directions (Bates, 1989). Responding to a question in the prior search session questionnaire regarding why the participant thinks these resources will be helpful, ID 2 responded that "even if you don't find what you're looking for in one of the resources, you might find a piece [of] information that helps guide the rest of your search in the right direction!". In the same question, ID 5 wrote that they felt resources, such as Ravelry, Google, YouTube, friends, and Grandma, would be helpful because they can use these resources

"to find information written by other knitters". ID 6 commented that they placed Instagram in Zone 2 in their first map because they intended to use Instagram to find inspiration in order to arrive at another website, such as Ravelry. Similarly, ID 8 also placed certain resources in Zone 2 because they use these resources to "seek out alternatives…or even discover sources located in Zone 1". ID 9 commented that the reason why they placed patterns in the side of Zone 1 is because they will "need to use another website that links to the pattern to find it". ID 9 also found a potentially useful resource through YouTube. Since they liked the creator's YouTube video, they hoped that by using the creator's blog site they would be able to find other helpful resources. Thus, many participants were aware of their own information seeking techniques and the effectiveness of using resources as a platform to discover even more useful resources.

Did Information Source Horizon Maps change?

One of the questions this paper was interested in was: do information source horizon maps change and, if so, how? The following section will not go into how and why horizons changed as this has already been covered in previous sections of this paper. Instead, it will focus on how successful participants' predictions were and their thoughts regarding those changes. Moreover, these predictions are informed by participants' own stores of knowledge and previous experiences. Most of the horizons changed to some degree. Some of the horizons ended up looking very different, while other horizons only underwent minor changes.

ID 2's horizon did not change dramatically. Instead, ID 2 mostly just moved elements around on their horizon and moderately changed resource types. They did not

remove any resources. ID 2's resources, such as Pinterest, friends, and Google, all shifted position. Google was moved into Zone 1, while Pinterest and "ask a friend" were both moved to less helpful zones. Etsy remained in Zone 3. ID 2 became more detailed regarding where they retrieved their YouTube video. YouTube was modified from YouTube to referencing a YouTube video on a specific website. Despite having no dramatic changes, ID 2 was surprised by their horizon's transformation. ID 2 stated that they were surprised how difficult it was to find free options on Pinterest.

Similarly, ID 5 barely modified their horizon, removing only one resource. However, they moved resources around their horizon. Ravelry, Google, and "ask friends" remained in the same zones throughout both horizons; Ravelry in Zone 1, Google and "ask friends" in Zone 3. Only YouTube was moved into Zone 1. Unlike ID 2, ID 5 did not change the granularity of the YouTube video. Like ID 2, ID 5 answered that they were surprised by their second horizon, despite modifying it only slightly. ID 5 was surprised how they used YouTube to learn new techniques because it was too difficult to understand written instructions. Insights such as these help to underscore the importance of diary entries as ways to guide the interpretation of participants' horizon maps.

On the other hand, ID 6's horizon changed dramatically. The only resource that remained in the same zone was Ravelry which was positioned in Zone 1. Interestingly, ID 6 also placed Ravelry into Zone 3, labelling it as "other [projects] on Ravelry for color [inspiration]". Some other resources remained in the horizon. Designer-related resources moved from Zone 2 into Zone 1. Otherwise, many resources were removed and added. ID 6 wrote that they were surprised by the addition of two new resources in their second horizon. They were surprised that they did not put Knit Picks in their first horizon,

despite using the resource frequently. However, they realized that this was likely because Knit Picks is not the first place they look for information on [type of clothing] projects. ID 6 was also surprised that one of their sources of inspiration was *The Crown.* As mentioned previously, ID 6 remembered flags from the show during their search session. ID 6 was surprised by the impact of these flags as they did not consider putting them into their first horizon.

In ID 7's second horizon, rather than remove or add any resources, ID 7 mostly moved resources around their horizon. They added only one new resource into Zone 2, "look at Instagram images", and removed "asking a friend" from Zone 3. ID 7 kept the same resources in Zone 1. However, they shifted YouTube from the periphery to the center of the vision, replacing online patterns in the central position. The online patterns element was moved into the periphery. ID 7 moved "Looking at images of completed [type of clothing]" and blogs from Zone 2 to Zone 3. ID 7 moved "messaging website" from Zone 3 to Zone 2. ID 7 made no drastic changes to their horizon. Nonetheless, unlike all the other participants, ID 7 stated that they were not surprised that their horizon changed. ID 7 explained that once they started searching, they knew that they would find out what was and what was not helpful as well as discover new resources.

ID 8 made a number of changes to their horizon, but still kept the essence of their first horizon's direction. ID 8 reduced their listed resources from 8 to 5. ID 8 did not introduce any new resources into Zone 1, keeping YouTube in a central position and Lowes's website to the side. ID 8 removed "blog tutorials", which had appeared previously in Zone 1 of their first horizon, from their second horizon. "Blogs" also appeared in their first horizon, but in the side of Zone 2. Similar to "blog tutorials", ID 8

removed “blogs” in their second horizon. They also discarded Lowes/Home depot employees. ID 8 shifted website text instructions/tutorials from Zone 2 into Zone 3. Website images remained in Zone 2. Friend also stayed in Zone 2, but its description was changed from “friend” to “texting friend”. ID 8’s horizon was initially broad. ID 8 then narrowed their second horizon. ID 8 stated that they were “slightly surprised by the scarcity of free plans on websites and blogs”; this is similar to ID 2. ID 8’s surprise stemmed from a recent experience they had where they completed a project using free instructions from a blog. However, they stated that they were not surprised that they removed employees; during their research session, they did not use Lowes employees as their questions were answered in other resources.

Unlike ID 8, ID 9’s second horizon did not get narrower. However, like ID 8, ID 9’s second horizon had fewer resources. Originally, ID 9 had YouTube and patterns in Zone 1. In the second horizon, ID 9 kept YouTube in the center, but removed patterns. Similar to ID 2 with their YouTube resource, ID 9 became more specific with one of their resources: patterns. They narrowed patterns to “pattern on WordPress blog”. ID 9 moved Pinterest from the periphery to the center of Zone 2, taking over TikTok’s previous position. TikTok was not added elsewhere in the second horizon. Two other resources were also removed: Reddit and Ravelry. ID 9 added only one new resource: blogs. Blogs was placed into the periphery of Zone 3. ID 9, was surprised by the change in their horizon. Similar to ID 2 and ID 8, they explained that they were surprised by how challenging it was to find free patterns. Like ID 8, this surprise stemmed from previous experience. ID 9 stated that they frequently carry out searches for crotchet patterns, explaining that they “normally don’t have a problem with finding free patterns since

many people host patterns on blogs". As a result, they adjusted their normal searching strategies.

ID 10's first horizon was a smaller horizon, representing only four resources. Their second horizon also depicted four resources. However, ID 10 did modify their map. In their first horizon, ID 10 initially placed blog posts into Zone 3, but later removed blog posts from their second horizon. After placing written patterns into Zone 2 in their first horizon, ID 10 removed written patterns from their second horizon. However, ID 10 added a new instructional resource, written guides, into Zone 1 in their second horizon. ID 10 added a new resource: craft store guide. Written guide appeared in Zone 1, while craft store guide was located in Zone 3. ID 10 was surprised by the usefulness of one of their resources: written guides. This was because, generally, ID 10 found written guides unhelpful, stating that they "tend to avoid strictly written guides online". However, the written guide had a helpful sizing chart that made it easy to gauge shirt measurements. The helpfulness of the written guide contradicted their previous experience, leading to ID 10's surprise. Some resources remained in the same zones for ID 10. YouTube stayed in the center of Zone 1. "Asking friends" persisted in Zone 2's periphery.

Participants used their own stores of knowledge and previous experiences in order to determine what resources might be helpful. A number of scholars have described the role of this process, such as the individual's role, information form, or information process. Under Stebbins' (2009) serious leisure perspective, this is the individual experience showing its role in serious leisure activities. Bates (2006) refers this to as experienced information. In Savolainen's (1995) everyday life information seeking framework, individuals will gather experiences with certain resources that will affect

their information behavior. As mentioned previously in the literature review, this can lead to a profile of information orientation. Although all participants modified their horizons to some degree, most participants had a good idea of what resources would be helpful. All participants predicted at least one Zone 1 resource correctly. For example, prior to their search, ID 10 stated that, historically, they had the most success with YouTube. In the end, ID 10's prediction was correct, and YouTube was deemed the most helpful. Some participants' Zone 2 resources moved into Zone 1. Other times, their Zone 2 resources were not so helpful, dropping them into Zone 3. Generally, participants were correct about the level of helpfulness of resources they located in their first horizon's Zone 3. When resources did not align with participants' previous experiences, it was a sometimes a source of surprise. This was the case for ID 10, ID 9, and ID 8. Other sources of surprise included the difficulty of using or finding a particular resource, such as with ID 5 and ID 2. By the end of their search, all participants reported that they had successfully found the information they wanted.

Applying Bates' Model

One of the most interesting aspects of digital devices is the ability to encode many different fundamental forms of information. The following section will briefly apply Bates' fundamental forms of information (2006). Due to the internet, remote information sharing is no longer limited to manifesting as recorded information. The digital world can allow for remote communication and information sharing in unique ways. This network of human interaction on the internet creates new knowledge through digital communities, business endeavors, etc.

Arguably, tutorial videos present a form of re-encoded, recorded information, allowing viewers to be able watch the human body enact information in the form of tasks and verbal explanations. In other words, these videos could be called "re-encoded, recorded, enacted information". One of the reasons YouTube videos were important to participants was that they could help them to better visualize crafting techniques. As previously mentioned, it is interesting that most participants included YouTube on their information horizons. The only exception was the participant who was concerned exclusively with materials, rather than other aspects, such as technique. This indicates that knowledge of the appropriate techniques may help determine how useful certain forms of information are.

As a result, it is important to further specify the forms of information. The information content of instructional videos takes on many forms, simultaneously, causing Bates' terminology to no longer be able to adequately describe the attributes of the information source. Additionally, because participants treat text instructions and video tutorials differently calling them both "recorded information" is reductive. Textual instructions cannot be embodied unless the participants interpret the meaning of the instructions, whereas video instructions allow for instant and easy visualization. We need new terms that capture the complex nuances of recorded information on the web, as in the case with recordings of people embodying information. Technologies will continue to develop and transform the way we interact with information. For example, as virtual reality becomes common, individuals at home will be able to see and interact with recorded information in a 3-dimensional world that will be less and less distinguishable from in-person interaction over time.

Another information form that appeared on participants' horizons was imagery. Bates locates photographs as recorded information. However, the term "recorded information" by itself does not adequately describe photographs of items or objects that someone has created or altered and then left behind. This would be recorded information of embedded information. Interestingly, when viewing an image of a completed craft project, participants can use these forms of information for different purposes and to different levels of success. If the participant is inexperienced with the required techniques, attempting to replicate the technique using this resource could be difficult. If the participant was looking for inspiration or judging whether the object was worth creating, it could be very helpful.

Another limitation of Bates' model is that it does not capture the new internet tools that create new information. For example, ID 6, in their information horizon prior to their search session, included the website Yarn Sub which helps knitters and crocheters to find yarn substitutes. Labelling it "recorded information", simply because it is made up of text and images, is reductive. It does not take into account the customizable, interactive aspect that is essential for the tool's use.

Hobbyist LibGuide Recommendations

LibGuides should support a number of information-seeking activities. Participants exhibited berry-picking style of information seeking. LibGuides should support berry-picking information seeking. LibGuides should help users by presenting platforms that will help them to discover new resources. Additionally, LibGuides should support users by helping them to find resources or support information seeking habits that can lead to

inspiration. Individuals can be aware of discovering new resources through other resources. It should be expected that participants will draw from their personal experiences when deciding the course of their research. As a result, when writing LibGuides targeted toward neophyte maker hobbyists, librarians should realize that they are planting the seeds for future searches.

When designing LibGuides, librarians should take financial cost into consideration. Particularly for those learning new techniques, there will be hesitancy towards spending money, especially due to the availability of free resources on the internet. For example, it is possible that ID 9 wanted free patterns because they lacked confidence in their skills. They mentioned that they might buy a pattern, but for their first attempt, they wanted to use a free resource. ID 9 also ruminated that patterns available for purchase may require more expertise.

Although sometimes lacking depth, general social media websites, such as Instagram, Pinterest, and TikTok, can be useful for inspiration and, sometimes, as a springboard to other resources. LibGuides should be created to help support creativity. However, they have clear limitations, especially in relation to financial cost. From the results of this study, Pinterest generally does not lead to free resources. Regarding the social world, participants did not engage with traditional text-oriented social media websites during their search, such as Reddit or Facebook.

LibGuides should introduce more specific hobby-related websites. LibGuide creators should find what the most popular websites within their targeted hobbyist groups are. Participants often brought up very specific hobby-related websites. However, what these websites are will likely vary from hobby to hobby. In this study, due to many

participants using yarn and the small sample size, it quickly became clear what some of these sources were, such as Ravelry, allfreeknitting, and Plucky Knitter. Due to the breadth of the internet, there are a wide number of resources to select from.

Instructional materials can surface in many different resources. They are often embedded into other resources. Generally, blogs can be either hit or miss. From the analysis of this paper, blogs tended to be less helpful to the participants. LibGuide creators should include blog posts cautiously. For visual learners, YouTube is a great resource to recommend. As discussed, YouTube was a popular resource to help explain techniques, as participants often brought up the difficulty of understanding textual instructions. Librarians should look for resources that communicate clearly.

The helpfulness of a resource is largely dependent on the project. For example, many participants learning or comparing techniques often cited YouTube as a helpful resource. In comparison, ID 6, who was interested only in materials, did not bring up YouTube. Regarding materials, websites such as Ravelry, that allow the user to compare other hobbyists' experiences with a material, will likely be more helpful. Librarians should consider tailoring LibGuides to specific types of topics or projects. Similarly, the helpfulness of shopping websites depends greatly on the project. Projects focused on materials and material cost are more likely to be interested in shopping websites. From the analysis, it appears that shopping websites that encompassed more brands are more helpful than individual brand websites. Looking at ID 6 and ID 8 horizons and diary entries, comparing materials was an important aspect of their research process.

Conclusion

Increasingly, hobbies are important due to the joy and meaning they bring. Hobbies are an opportunity for self-exploration; a way for a person to shed their work responsibilities and seek relief in another activity. This paper was written during the Covid-19 pandemic, which has seen a massive spike in hobby activity (Alfonso, 2020), highlighting the importance of hobbies in people's lives. The Covid-19 pandemic forced the world into isolation, limiting access to traditional forms of information searching, such as through books, local communities, and libraries. Those who had access to the internet access were able to have better access to information seeking. For libraries and many other organizations, the internet became one of the few ways left to interact with their patrons until other socially distant points of contact could be created. This paper has not only shed light on craft hobbyists' information preferences using digital devices, but has also made practical digital resource recommendations for maker hobby-related LibGuides.

The nature of a participant's project and their goals impacted what participants viewed as helpful. Moreover, the same resource could be used in many different ways. From data and analysis of this study, a person interested in learning a new technique will likely find resources that imitate expressed information more helpful. Since many participants were interested in the technical aspects of their project, YouTube was considered to be one of the most helpful resources. For some participants, financial cost and materials were important considerations for their craft projects. For participants

focused on materials and budgets, shopping websites often ended up in Zone 1 after their search session. Other than YouTube, social media websites were often moved into less helpful zones in the second horizon. Similarly, blogs also moved into less helpful zones after the search session. However, social media could be a useful place for inspiration and may kick off a new project idea or design. Depending on the participant's hobby, certain hobbyist-focused websites could be useful, such as Lowes or Ravelry. Sometimes, these platforms, as with Ravelry, could be used to understand other hobbyists' experiences. For some participants, helpfulness was also determined in part by "liking" something or the inspiration it gave. Most participants did not list, reach out, or indicate clearly that they contacted their personal contacts. Those who did reach out to a contact, there were mixed results. For one person, it was very useful. While for another participant, the contact did not respond quickly enough. There were some differences in interpretation of the instructions regarding reaching out to contacts over digital devices. Participants were aware of their own information-seeking behaviors. Their descriptions of using different resources to find other resources supported Bates' berry-picking model.

For internet resources, applying Bates' fundamental forms of information model can be reductive. For example, labelling a tutorial video as recorded information because it is stored externally to the body misses out on important attributes of this information type that make it different to written instructions or symbols. Videos that focus on the depiction of the body or mimic in-person teaching are better categorized as imitations of expressed information. With the rise of new technologies, such as virtual reality, it will likely be possible to view objects 3-dimensionally and in greater detail. Thus, Bates' model does not capture the unique attributes of such resources. "Recorded information"

as a category needs to be expanded in order to take into account these nuances and more granular terms may need to be coined.

The information source horizon map proved to be a useful tool, giving participants a reference point for their discussions. Generally, the diary entries matched what participants had drawn on their maps. However, there were a number of discrepancies. Some discrepancy was expected as another study using horizons also noticed some inconsistencies (Sonnenwald et al., 2001). Nonetheless, these discrepancies do not nullify the usefulness of horizons. In this paper, many of these inconsistencies involve participants not discussing all their resources. For example, ID 7 added Instagram to Zone 2, but they gave no reason as to why. ID 6 moved designer from Zone 2 into Zone 1, but they did not mention designer in the second horizon's associated diary entry. Although not necessarily a discrepancy, sometimes there was ambiguity between resources and repetition of resources. In ID 8's horizon, the line between "blogs" and "websites tutorials (text)" could be interpreted as rather blurry. Other than these types of minor inconsistencies and ambiguities, there were no other major discrepancies between the horizons and diary entries.

Lastly, the information source horizon map could be a useful learning tool to improve information literacy. One participant stated that they "found this incredibly useful to learn what resources are helpful to [them] in the research process". They further commented that they could see themselves "doing this again with other projects to see what is most helpful to [them]". Following studies should interrogate whether or not the horizon could be a useful learning tool, helping individuals learn how to better navigate the web or available resources as well as supporting self-reflection.

References

Adams, S.S. (2009). What Games Have to Offer: Information Behavior and Meaning-Making in Virtual Play Spaces. *Library Trends 57*(4), 676-693. doi:10.1353/lib.0.0058.

Bates, M.J. (1974). Speculations on the sociocultural context of public information provision in the seventies and beyond. *Library and information service needs of the nation: proceedings of a conference on the needs of occupational, ethnic, and other groups in the United States* (pp. 51-76). Washington, DC: United States Government Printing Office.

Bates, M. J. (1989). The design of browsing and berrypicking techniques for the online search interface. *Online Review*, *13*(5), 407–424. https://doi.org/10.1108/eb024320

Bates, M. J. (2006). Fundamental forms of information. *Journal of the American Society for Information Science and Technology*, *57*(8), 1033–1045. https://doi.org/10.1002/asi.20369

Bates, M. J., & Maack, M. N. (Eds.). (2009). Leisure and Hobby Information and Its Users. In *Encyclopedia of Library and Information Sciences, Third Edition* (0 ed., pp. 3263–3274). CRC Press. https://doi.org/10.1081/E-ELIS3-120043076

Best, F. (1973). *The future of work*. Prentice-Hall.

Bosserman, P., & Gagan, R. (1972). Leisure behavior and voluntary action. In H. Smith (Ed.), *Voluntary Action Research* (pp. 109–126). Lexington.

Case, D. O. (Ed.). (2012). *Looking for information: A survey of research on information seeking, needs and behavior* (3 ed). Emerald.

Caldwell, L. L. (2005). Leisure and health: Why is leisure therapeutic?. B*ritish Journal of Guidance & Counselling*, 33(1), 7–26.

Chatman, E. A. (1992). *The information world of retired women*. Greenwood Press.

Chang, S.L. (2009). Information Research in Leisure: Implications from an Empirical Study of Backpackers. *Library Trends 57*(4), 711-728. doi:10.1353/lib.0.0062.

Cheng, Eva (Hui-Ping), & Pegg, Shane (2016) "If I'm not gardening, I'm not at my happiest": exploring the positive subjective experiences derived from serious leisure gardening by older adults, *World Leisure Journal*, 58:4, 285-297, DOI: 10.1080/16078055.2016.1228219

CNN, F. A. I. (2020). *The long lost hobbies people around the world are revisiting during the coronavirus pandemic*. CNN. Retrieved April 25, 2021, from https://www.cnn.com/2020/04/05/world/old-hobbies-quarantine-coronavirus-wellness-trnd/index.html

Copeland, A. J., & Agosto, D. E. (2012). Diagrams and Relational Maps: The Use of Graphic Elicitation Techniques with Interviewing for Data Collection, Analysis, and Display. *International Journal of Qualitative Methods*, *11*(5), 513–533. https://doi.org/10.1177/160940691201100501

Cox, A. M., Griffin, B., & Hartel, J. (2017). What everybody knows: Embodied information in serious leisure. *Journal of Documentation*, *73*(3), 386–406. https://doi.org/10.1108/JD-06-2016-0073

Daniel, J. (2012). *Sampling essentials practical guidelines for making sampling choices*. SAGE.

Fulton, C. (2009). The pleasure principle: The power of positive affect in information seeking. *Aslib Proceedings*, *61*(3), 245–261. https://doi.org/10.1108/00012530910959808

Gorichanaz, T. (2017). The information of story: The genre and information activities of ultrarunning race reports. *Aslib Journal of Information Management*, *69*(4), 460–474. https://doi.org/10.1108/AJIM-03-2017-0071

Gorichanaz, T. (2018). Understanding and Information Constellations in Ultrarunning. *Library Trends*, *66*(3), 329–350. https://doi.org/10.1353/lib.2018.0006

Gorichanaz, T. (2019). Information experience in personally meaningful activities. *Journal of the Association for Information Science and Technology*, *70*(12), 1302–1310. https://doi.org/10.1002/asi.24142

Hartel, J. (2014a). An arts-informed study of information using the draw-and-write technique. *Journal of the Association for Information Science and Technology*, *65*(7), 1349–1367. https://doi.org/10.1002/asi.23121

Hartel, J. (2014b). An interdisciplinary platform for information behavior research in the liberal arts hobby. *Journal of Documentation*, *70*(5), 945–962. https://doi.org/10.1108/JD-08-2013-0110

Hartel, J. (2017). Information behaviour, visual research, and the information horizon interview: Three ways. *Information Research*, *22*(1), 1–13.

Hartel, J., Cox, A. M., & Griffin, B. L. (2016). Information activity in serious leisure. *Information Research*, *21*(4), 1–16. Library, Information Science & Technology Abstracts with Full Text.

Hartel, J., Oh, C., & Nguyen, A. T. (2018). Teaching Information Behavior with the Information Horizon Interview. *Journal of Education for Library and Information Science*, *59*(3), 67–79. https://doi.org/10.3138/jelis.59.3.2018-0017.07

Hartel, J., & Savolainen, R. (2016). Pictorial metaphors for information. *Journal of Documentation*, *72*(5), 794–812. https://doi.org/10.1108/JD-07-2015-0080

Hartel, J., Stebbins, R. A., Fulton, C., Chang, S. J., & Case, D. O. (2007). Taking leisure seriously: Information realities in leisure time. *Proceedings of the American Society for Information Science and Technology*, *43*(1), 1–7. https://doi.org/10.1002/meet.1450430140

Hektor, A. (2001). What's the use: Internet and information behavior in everyday life. Linkoping, Sweden: *Linkoping University*. (Linkoping Studies in Arts and Science 240). Retrieved from http://liu.diva-portal.org/smash/record.jsf?pid=diva2%3A254863&dswid=-9921

Hemmig, W. (2009). An empirical study of the information-seeking behavior of practicing visual artists. *Journal of Documentation*, *65*(4), 682–703. https://doi.org/10.1108/00220410910970302

Huvila, I. (2009). Analytical information horizon maps. *Library & Information Science Research*, *31*(1), 18–28. https://doi.org/10.1016/j.lisr.2008.06.005

Iwasaki, Y. (2007). Leisure and quality of life in an international and multicultural context: What are major pathways linking leisure to quality of life? *Social Indicators Research*, 82, 233–264.

Johnson, J. D. E., Case, D. O., Andrews, J., Allard, S. L., & Johnson, N. E. (2006). Fields and pathways: Contrasting or complementary views of information seeking. *Information Processing & Management*, *42*(2), 569–582. https://doi.org/10.1016/j.ipm.2004.12.001

Kim, J., Yamada, N., Heo, J., & Han, A. (2014). Health benefits of serious involvement in leisure activities among older Korean adults. *International Journal of Qualitative Studies on Health and Well-being*, 9(1), 1–9.

Lee, C. P., & Trace, C. B. (2009). The role of information in a community of hobbyist collectors. *Journal of the American Society for Information Science and Technology*, *60*(3), 621–637. https://doi.org/10.1002/asi.20996

Lee, K., & Ewert, A. (2019). Understanding the motivations of serious leisure participation: A self-determination approach. *Annals of Leisure Research*, 22(1), 76–96.

Lee, L., Ocepek, M. G., Makri, S., Buchanan, G., & McKay, D. (2019). Getting creative in everyday life: Investigating arts and crafts hobbyists' information behavior. *Proceedings of the Association for Information Science and Technology*, *56*(1), 703–705. https://doi.org/10.1002/pra2.141

Lefkowitz, B. (1979). *Breaktime: Living without work in a nine to five world*. Hawthorn Books.

Mansourian, Y. (2020). How Passionate People Seek and Share Various Forms of Information in Their Serious Leisure. *Journal of the Australian Library and Information Association*, *69*(1), 17–30. https://doi.org/10.1080/24750158.2019.1686569

Miller, T., Birch, M., Mauthner, M., & Jessop, J. (2012). *Ethics in Qualitative Research*. SAGE Publications Ltd. https://doi.org/10.4135/9781473913912

Ross, C. S. (1999). Finding without seeking: The information encounter in the context of reading for pleasure. *Information Processing & Management*, 35(6), 783–799.

Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life." *Library & Information Science Research*, *17*(3), 259–294. https://doi.org/10.1016/0740-8188(95)90048-9

Savolainen, R. (2007). Information source horizons and source preferences of environmental activists: A social phenomenological approach. *Journal of the American Society for Information Science and Technology*, *58*(12), 1709–1719. https://doi.org/10.1002/asi.20644

Savolainen, R. (2008). Source preferences in the context of seeking problem-specific information. *Information Processing & Management*, *44*(1), 274–293. https://doi.org/10.1016/j.ipm.2007.02.008

Savolainen, R., & Kari, J. (2004). Placing the Internet in information source horizons. A study of information seeking by Internet users in the context of self-development. *Library & Information Science Research*, *26*(4), 415–433. https://doi.org/10.1016/j.lisr.2004.04.004

Schutz, A. (1970). *Reflections on the problem of relevance*. Yale University Press.

Schutz, A., & Luckmann, T. (1973). *The structures of the life-world*. Northwestern University Press.

Shupe, F. L., & Gagné, P. (2016). Motives for and personal and social benefits of airplane piloting as a serious leisure activity for women. *Journal of Contemporary Ethnography,* 45(1), 85–112.

Sinn, D., Kim, S., & Syn, S. Y. (2019). Information activities within information horizons: A case for college students' personal information management. *Library & Information Science Research*, *41*(1), 19–30. https://doi.org/10.1016/j.lisr.2019.02.003

Sonnenwald, D. (1999). Evolving Perspectives of Human Information Behavior: Contexts, Situations, Social Networks and Information Horizons. *Exploring the Contexts of Information Behaviour*, 176–190.

Sonnenwald, D., Wildemuth, B., & Harmon, G. (2001). A research method using the concept of information horizons: An example from a study of lower socio-economic students' information seeking behavior. *The New Review of Information Behavior Research*, *2*, 65–86.

Stebbins, R. A. (1982). Serious Leisure: A Conceptual Statement. *The Pacific Sociological Review*, *25*(2), 251–272. https://doi.org/10.2307/1388726

Stebbins, R. A. (1992). *Amateurs, Professionals, and Serious Leisure*. McGill-Queen's University Press.

Stebbins, R. (2014). *Amateurs, Professionals, and Serious Leisure.* McGill-Queen's University Press.

Stebbins, R. A. (2005). Project-based leisure: Theoretical neglect of a common use of free time. *Leisure Studies*, *24*(1), 1–11. https://doi.org/10.1080/0261436042000180832

Stebbins, R. A. (2009). Leisure and Its Relationship to Library and: Information Science: Bridging the Gap. *Library Trends*, *57*(4), 618–631. https://doi.org/10.1353/lib.0.0064

Taylor, R.S. (1991). Information use environments. In B. Dervin & M. Voigt, (Eds.), *Progress in Communication Sciences, Volume 10* (pp. 217- 255). Norwood.

Vakkari, P. (2008). Trends and approaches in information behaviour research. *Information Research*, *13*(4), 47.

Veal, A. J. (2017). The Serious Leisure Perspective and the Experience of Leisure. *Leisure Sciences*, *39*(3), 205–223. https://doi.org/10.1080/01490400.2016.1189367

Wildemuth, B. M. (2009). *Applications of social research methods to questions in information and library science*. Libraries Unlimited.

Yakel, E. (2004) "Seeking information, seeking connections, seeking meaning: genealogists and family historians " *Information Research*, 10(1) paper 205 [Available at http://informationr.net.libproxy.lib.unc.edu/ir/10-1/paper205.html]

Appendix A. Email ListServ Announcement Transcript

Email ListServ Announcement Transcript

IRB Study Number: 20-3353

Looking for Creative/Craft Hobbyist Volunteers!

Do you like knitting, wood working, quilting, carving, making clothes, model building, or other similar activities?

Are you a craft hobbyist/creative hobbyist? Are you over 18 years?

All Experience Levels Welcome!

From super beginners to experienced!

We are conducting a research study to investigate how people use online resources while doing research for their craft or hobby projects.

The study is aimed at people who:

- Have a craft or hobby/project
- Have a project for this hobby that they wish to do online research on
- Are over 18 years of age

The study will take place over February or early March depending on participants' availability. Participants will receive a $20 Amazon gift card. Participation involves:

- Watching 3 short videos
- Completing two questionnaires about your hobby and related project you intend to carry online research on
- Setting aside time (at least 30 minutes) to do online research for your chosen hobby's project
- Completing a final questionnaire about the resources you used and how those resources changed over your search session.

If you are interested in participating in this study, then please contact Chloë T. Maddock at [researcher's email address]. In your email, please indicate the following:

- Your craft or hobby you would use in the study
- The project you have in mind
- Why you need to carry out research for this project
- Please indicate that you are over 18 years

After receiving your email, you will be contacted with additional information if you are chosen to be part of the study.

If you have questions or concerns about your rights as a research subject, you may contact the UNC Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Appendix B. Recruitment Follow Up

IRB Number: 20-3353

Hi *Participant's name!*

Thank you for expressing interest in this study and offering your time! I greatly appreciate it!!!

How to participate in this research study

The purpose of this research study is to gain insights about the types of resources used when you search for information about your craft/hobby project, and how useful these resources are over the course of an online search session. This online search session will be on your chosen craft hobby project or creative hobby project. You are being asked to take part in this research study because you indicated that you are one of the aforementioned hobbyists, have a project you want to research online, and are over 18 years of age.

This email will outline the study and explain the steps to take in order to participate.

What you will receive

You will receive three short videos and three questionnaires. These videos will be used as a way to on-board you to the study. The first video will outline the study. The second

video will explain information source horizon maps. I will provide the URL links to these videos in this document.

You will receive three questionnaires. The first questionnaire will ask you some basic questions about your hobby and project. The next two questionnaires will ask you about your online search, your online search preferences, and for your information source horizon maps. The second questionnaire will be completed before you start your online search session. The third questionnaire will be completed after you finish your online search session. These questionnaire URL links will be provided in this document.

You will also receive a Google Doc explaining information source horizon maps. You can find this URL link in the second and third questionnaires.

Study Steps

1. Review this email
2. Complete the first questionnaire - *Pre-filled identifier link to Initial Questions*
3. Watch these videos – *URL link to video playlist*
4. Complete the second questionnaire - *Pre-filled identifier link to Questionnaire – Prior to Online Search*
5. Carry out your online search for your chosen hobby project
6. Complete the third questionnaire - *Pre-filled identifier link to Questionnaire – After Online Search*
7. Receive $20 Amazon Gift Card

Once you receive your Amazon Gift Card, your participation in the study ends!

Being in a research study is completely voluntary. You can choose not to be in this research study at any point. You can also say yes now and change your mind later.

Again, thank you for offering your participation! And if you have any questions, please feel free to contact me either by email ([researcher's email address]) or my mobile [researcher's mobile number].

You can contact the UNC Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Best,

Chloë

Appendix C. Consent Form

Consent Form University of North Carolina at Chapel Hill IRB Study #: 20-3353

Principal Investigator: Chloë T. Maddock

Purpose:

The purpose of this research study is to gain insights about the types of resources used when you search for information about your craft/hobby project, and how useful these resources are over the course of an online search session. This online search session will be on your chosen craft hobby or creative hobby project. You are being asked to take part in this research study because you indicated that you are one of the aforementioned hobbyists, have a project you want to research online, and are over 18 years of age. If you agree to take part in this research, you will be asked to fill out a series of questionnaires, conduct a search of your choosing, and complete two information source horizon maps. Being in this study is completely voluntary. You can choose not to be in this study. You can say yes now and change your mind later. Participating in this study will not impact your grades or your employment at UNC at Chapel Hill. It will help our study if you respond to each question. However, it is okay to skip any questions that you do not wish to answer.

Participation Requirements:

In order to participate in this study, it is required that you are all of the following below:

- - You are over 18
- - You have a craft/creative hobby that you have chosen for this study
- - You have a project for this chosen hobby that you wish to carry out online research on
- - Your chosen hobby and project does not involve criminal activity
- - You do not feel embarrassed by your hobby and are willing to share information on it

Participation Length:

Your participation in this study can take place at your convenience, but the deadline for participan is at X Date. It is estimated that each questionnaire will take between 10 and 30 minutes. If you do not have time to complete the study, please contact me. After completing the study, you will receive a $20 Amazon gift card.

Risks:

Embarrassment – you may feel embarrassed if you describe challenges and failures of your search or if you feel like your hobby is embarrassing. No one other than the principal investigator will be able to identify questionnaire data. In the research paper, an identifier made up of random numbers will be used to hide your identity. Additionally, any identifying information will be obfuscated. Please choose a hobby that you feel comfortable speaking about and that does not involve criminal activity.

Consequences of breach of confidentiality - If there is a breach of confidentiality, you may end up feeling uncomfortable and upset that others may know aspects about your hobbies or any struggles you had while searching online.

To minimize risk of breach of confidentiality, your name, email, and identifier (used to hide your identity in the paper) will be stored in a password-protected file and all other research data will also be password-protected. The file with your name, email, and identifier will be stored on a separate USB Key. Your identifier will be automatically assigned to your questionnaires. After the study ends, the file containing your name, email, and identifier will be destroyed. No identifying information will be asked in the questionnaires. Any identifying information will be obfuscated. Research data will not be shared with anyone. Questionnaire data will be stored through Qualtrics and will be deleted from Qualtrics after the study has ended.

Benefits:

There are no direct benefits from participating in this study.

If you have any questions about this research, please contact the Investigator (Chloë T. Maddock) named at the top of this form by calling [researcher's mobile number] or emailing [researcher's email address]. If you have questions or concerns about your rights as a research subject, you may contact the UNC Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Appendix D. Qualtrics - Diary Entry 1

Initial Questions

This research study is intended to gain insights about the types of resources that you use when you search for information about your craft/hobby project, and how the resources that you find useful change over the course of an online search session.

This questionnaire is intended to collect some information about your chosen hobby, project, and research. I would like to know a little bit more about your selected hobby and project and what you want to achieve out of your searching.

It will help our study if you respond to each question. However, it is okay to skip any questions that you do not wish to answer.

If you have any questions, please feel free to contact me at [researcher's email address] or [researcher's mobile number].

Consent agreement - Please follow the URL and read the Google Doc: https://docs.google.com/document/d/11jemsaY8qMj0fSDs4-PeI6pE8esViwDpPzCf3s8P4S8/edit?usp=sharing

o I have read the information provided in the Google Doc. I voluntarily agree to participate in this research study.

What is your selected hobby for the study?

Tell me about your selected project for the study?

What do you hope to achieve out of your searching session for this study?

Appendix E. Qualtrics - Diary Entry 2

Questionnaire - Prior to Online Search

Please complete this questionnaire prior to you starting your research session.

This research study is intended to gain insights about the types of resources that you use when you search for information about your craft/hobby project, and how the resources that you find useful change over the course of an online search session. This questionnaire will ask about what types of online resources you think might be useful for your chosen hobby's project. It will help our study if you respond to each question. However, it is okay to skip any questions that you do not wish to answer. If you have any questions, please feel free to contact me at [researcher's email address] or [researcher's mobile number].

Please draw your first information source horizon map now.

An information source horizon map is a drawing of a semi-circle that is sliced into three different layers called Zone 1, Zone 2, and Zone 2. It is visually similar to a rainbow  . Imagine you are standing right in front of the rainbow. The things directly in front of your line of sight are more apparent, but the things farther away and at the edge of your vision seem less important. If resources are placed in Zone 1, this means you prefer them the most. The farther away you place resources from Zone 1, the less you prefer to use

these resources. If you place Resource A in Zone 1 that is right in front of you and another Resource B in Zone 1 but it is located near the edges of the rainbow, this means that you prefer or are giving greater credence to Resource A as it is more directly in your vision. Remember there is no right or wrong answer!

If you need to rewatch the YouTube explanation of an Information Source Horizon Map, here is the link: https://youtu.be/CnCO3QsXQMcg

Here is the written document explaining the information source horizon map: https://docs.google.com/document/d/1wJW89S0bI2Ve7kxubhrfzO29YUhxJo6aNKdi0_WWEzg/edit?usp=sharing

Below this text box, you can find an example of an information source horizon map. [See Appendix I, slide 6 for image]

Upload First Information Source Horizon Map!

Why did you place these resources in Zone 1?

Why did you place these resources in Zone 2?

Why did you place these resources in Zone 3?

Why do you think these resources will be helpful?

Appendix F. Qualtrics - Diary Entry 3

Questionnaire - After Online Research

Please complete this questionnaire after you have completed your research session. This research study is intended to gain insights about the types of resources that you use when you search for information about your craft/hobby project, and how the resources that you find useful change over the course of an online search session. This questionnaire is intended to collect some information regarding how your search session went. It will ask you some questions about your online resources and information source horizon maps. It will help our study if you respond to each question. However, it is okay to skip any questions that you do not wish to answer. If you have any questions, please feel free to contact me at [researcher's email address] or [researcher's mobile number].

Date of Questionnaire Entry:

Date of Research:

How long was your research session? (Please give an estimation in whatever time metric is most convenient - e.g. minutes, hours)

Please draw your second information source horizon map now.

For the second information source horizon map, please do not look back on the first information source horizon map submitted.

An information source horizon map is a drawing of a semi-circle that is sliced into three different layers called Zone 1, Zone 2, and Zone 2. It is visually similar to a rainbow 🌈. Imagine you are standing right in front of the rainbow. The things directly in front of your line of sight are more apparent, but the things farther away and at the edge of your vision seem less important.

If resources are placed in Zone 1, this means you prefer them the most. The farther away you place resources from Zone 1, the less you prefer to use these resources. If you place Resource A in Zone 1 that is right in front of you and another Resource B in Zone 1 but it is located near the edges of the rainbow, this means that you prefer or are giving greater credence to Resource A as it is more directly in your vision.

Remember there is no right or wrong answer!

If you need to rewatch the YouTube explanation of an Information Source Horizon Map, here is the link: https://youtu.be/CnCO3QsXQMcg

Here is the written document explaining the information source horizon map: https://docs.google.com/document/d/1wJW89S0bI2Ve7kxubhrfzO29YUhxJo6aNKdi0_WWEzg/edit?usp=sharing

You in the Information Source Horizon Map! [See Appendix I, slide 6 for image]

Upload Second Information Source Horizon - Please do not look back on the first information source horizon map submitted

What resources did you find the most helpful? Explain why.

What resources did you find the least helpful? Explain why.

If you changed your information source horizon map, what led you to change it?

If you removed any resources, why did you do so?

If you added new resources, why did you do so?

Were you surprised by your information source horizons changing/not changing? Explain why.

Did you find the information you needed? If not, what will you do next? Explain why.

If you have any final reflections of the process, please feel free to type them below.

Appendix F. Video 1 Script

Slide 1

Hi! Welcome to this study on hobbyists and what type of sources they prefer to use! My name is Chloë, the person leading this study. In this video, I will outline the structure of this study!

Slide 2

So, what are the study's goals?

Slide 3

The goal of this study is figure out what online sources hobbyists' prefer using while researching for a particular hobby related project! By online, I mean anything that is connected to the internet. So, searching can take place on any device, laptop, phone, tablet, so long as you're doing your research through technology! This study is interested in if and how those preferences may change in a single search session.

Slide 4

There are a couple of requirements for this study. The first of these is that you need to be over 18 years old. You also need to have a craft hobby that you have chosen for this study and picked out a project that you want research on. And, this research needs to take place online.

Slide 5

Also, whatever hobby and project you choose for this study. It needs to have no criminal activity related to it. And the hobby and project need to be something that you feel comfortable sharing with people.

Slide 6

So, what are the exact steps for this study!? First, you should have received your onboarding email that has all the links to the questionnaires, how you participate, and goes over other materials you should receive. Next, you should have filled out the first questionnaire listed in the study's steps section of the email. Within this questionnaire, you should have read and agreed to the consent form. After that, it's watching these YouTube videos which you're doing right now! Then, you will fill out another questionnaire. After this questionnaire, you will complete your online search session. Once you've completed your search, you will fill out the final questionnaire. And then once you submit this questionnaire, you're participation ends! It'll take a couple of days for me to process submissions in order to give you your Amazon gift card. I'll send the Amazon gift card to you using the email you contacted me with. And then the study is over!

Slide 7

There are three questionnaires that you need to do. The first questionnaire will ask you a couple of basic questions about your chosen hobby and chosen project for the study. It'll also ask you to read and agree to the consent form.

The second questionnaire takes place before you do your search session. The second questionnaire will ask you to upload an information source horizon map (I'll tell you more on what this is in the second video) and ask you some questions about what sources you think might be useful for this study.

The third questionnaire takes place after you do your search. This questionnaire will ask you some questions about how your study went, what sources you preferred and why, and ask you to upload another information source horizon map.

Slide 8

You might be wondering how you will be identified in this study. This study is entirely anonymous, so no one other than myself will know about your participation. Research data will also not be shared with anyone, but myself. Your questionnaires have an anonymous identifier, such as 1, 2, 3. These identifiers are in-built into the Qualtrics forms, so you don't need to worry about entering your identifier.

When the study is written about, these anonymous identifiers will be used. No identifying information will be included in the study and any identifying information that may be given in the questionnaires will obfuscated. Risk to confidentiality has been minimised by storing your email, identifier, and name is password protected file that is stored separately from the rest of the data. This file will be destroyed when the study ends.

Slide 9

You can choose to leave this study whenever you feel like it, at any point in the study.

Slide 10

You can also choose not to answer any question you don't want to.

Slide 11

If you have any questions, please feel to reach out to me by email or mobile! You can text or call, whatever you prefer! Thank you for watching and participating in this study. See you in the next video on information source horizon maps!

Appendix G. Video 2 Script

Slide 1

Hi again everyone! Welcome! In this video, I'm going to explain what information source horizon maps are! So, let's get started.

Slide 2

An information source horizon map is pretty much just a drawing that represents the types of sources that you prefer.

Slide 3

The information source horizon map is made up up of three different sections or what is referred to as zones. The zones kind of look like the bows of a rainbow.

Slide 4

There are three zones in the information source horizon map: Zone 1, Zone 2, and Zone 3. Within these zones, you'll write in the types of sources that you prefer. These sources can be anything! From websites with lots of text, YouTube videos, listening to a podcast, or calling and messaging your friend. It just needs to take place online.

Slide 5

Each rainbow bow is given its own zone. The first most inner bow is called zone 1, the middle bow is called zone 2, and the outer bow is called zone 3.

Slide 6

So, how do you decide where to place your sources in the information source horizon map? Imagine that you're standing right in front of this flattened rainbow, right in front of the inner most bow called zone 1. The idea is that the closer you are to the resource, the more you prefer or find that source useful. The further away you place the resource from you, less you prefer or find that source useful. Additionally, think about where you would place a source. How well can you see things in the periphery of your vision?

Slide 7

If you see something in the side of your vision, you can't see it as well as if it's in front of you. So, say in the same zone, if you place a source in the centre and the other to the side, you're saying something about your preference or you're emphasising that source in the centre over the source to the side.

Slide 8

Think about the relationship between you and your sources in the zones. If something is placed in Zone 2, but more directly in your vision, is it more important to you than something placed in Zone 1 which is on the periphery? There is no right or wrong answer! So, just go with what feels right to you.

Slide 9

Let's take a look at an example of a real life information source horizon map! This is an information source horizon map I drew for my own personal project knitting snowmen coffee cup cosies. For me, the written pattern I found on a website was the most important and so I placed that in the centre of zone 1. I also used YouTube videos a lot, so I placed this in zone 1 but on the periphery. I placed Messaging my friend in the centre of zone 2 as is it felt more directly preferable and important than the YouTube videos. However, I used the YouTube videos more, leading me to place them in zone 1. Instinctively, the YouTube videos felt less preferable/important to me than the key advice my friend gave me. This is why I ended up placing the YouTube videos on the periphery and messaging my friend in the centre of my vision.

Slide 10

You will complete two information source horizon maps, each of which you will upload to your questionnaires. You will complete the first information source horizon map prior to your online search. This is to try and figure out what sources you think you might end up preferring. The second information source horizon is completed after your search session. It will ask you questions about what you actually preferred in the end. For the purposes of this study, please don't look back on your previous information source horizon map. If you later have trouble remembering what an information source horizon map is, there will be a link to a Google Doc that will summarise what they are in the questionnaires.

You can draw your information source horizon map on any kind of material you want. You can draw it on a piece of paper and take a picture. You can draw it on your computer or tablet and upload it as an image or pdf. Whatever is easiest for you.

Slide 11

Thank you for watching these videos! If you have any questions, please feel free to reach out either to my email or mobile number. Have fun drawing and searching! And remember there are no right or wrong answers.

Appendix H. Video 1 Slides

Slide 1:

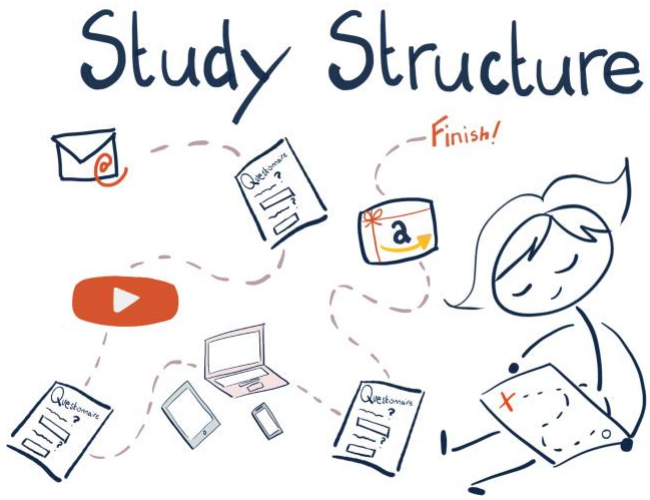
Slide 2:

Slide 3:

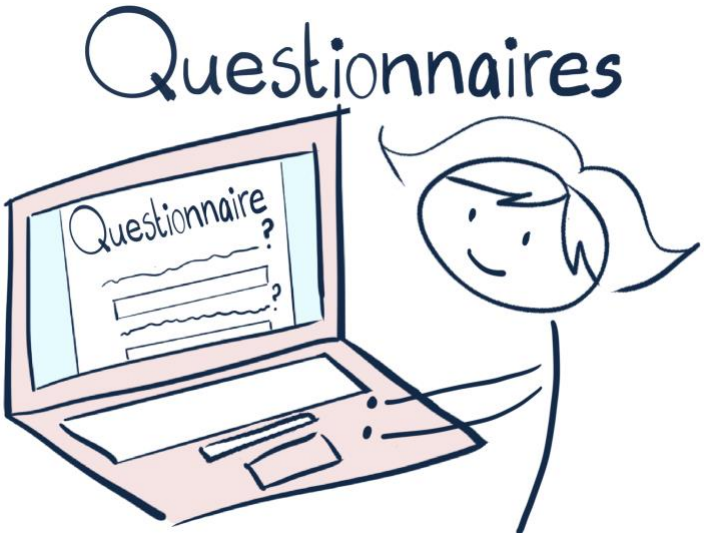
Slide 4:

Slide 5:

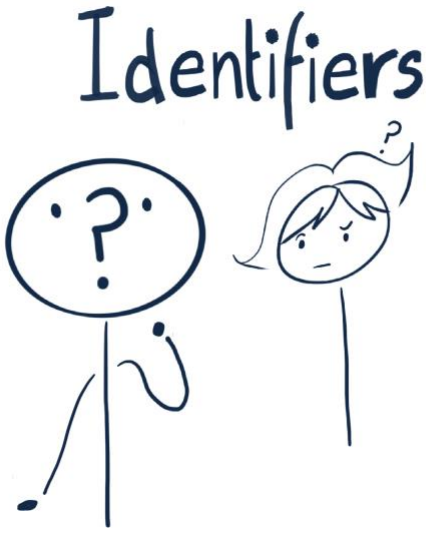
Slide 6:



Slide 7:

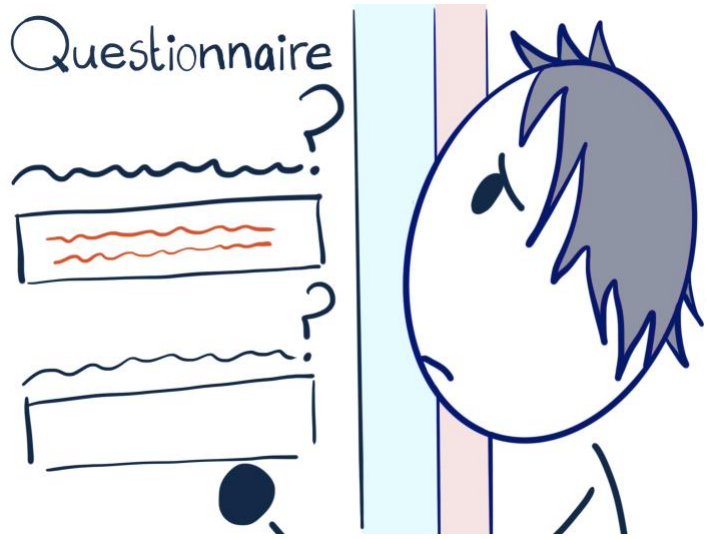


Slide 8:

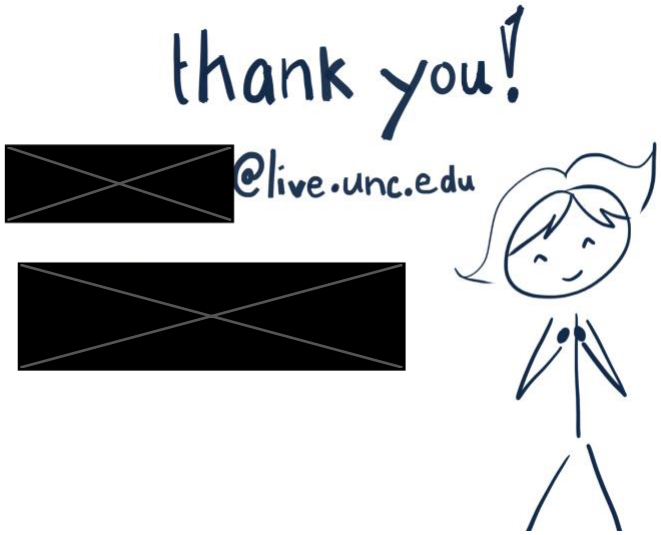


Slide 9:

Slide 10:

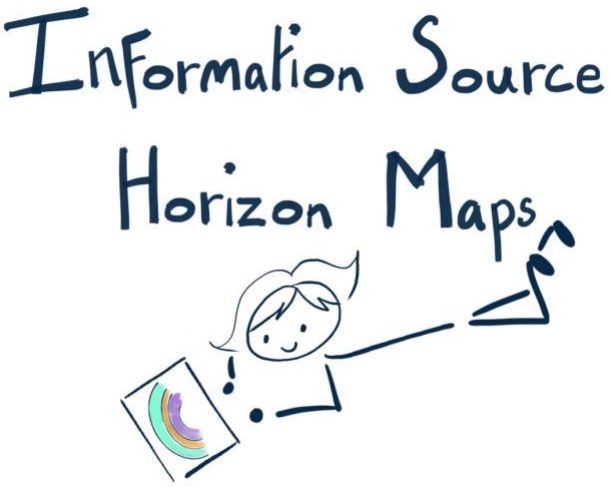


Slide 11:

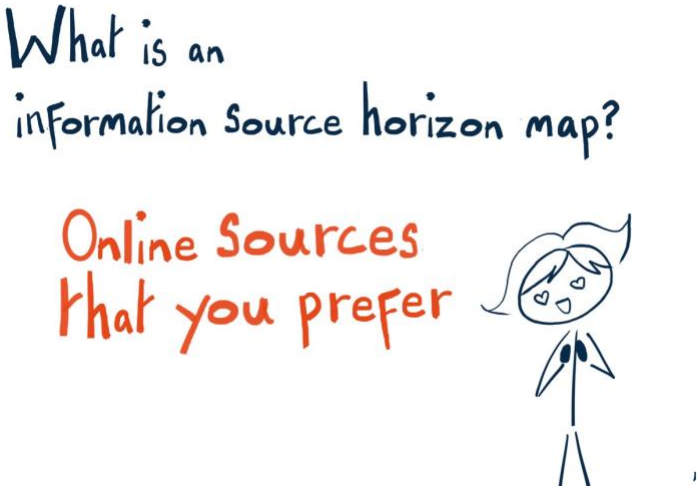


Appendix I. Video 2 Slides

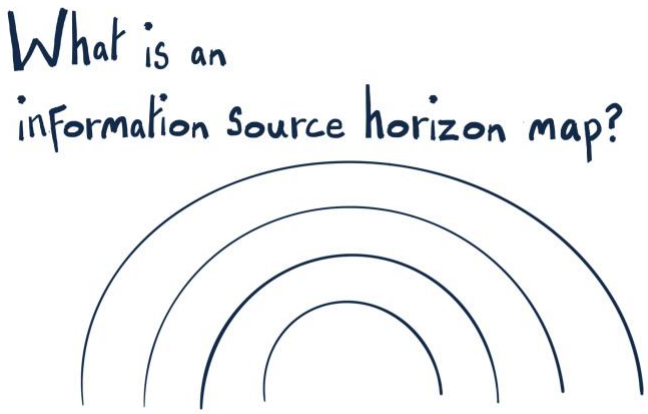
Slide 1:



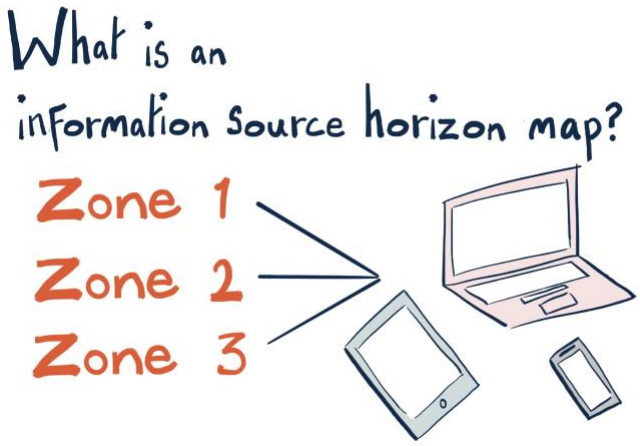
Slide 2:



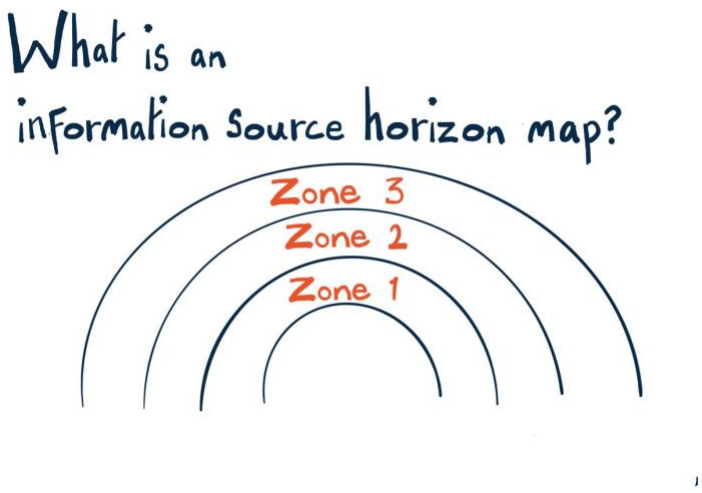
Slide 3:



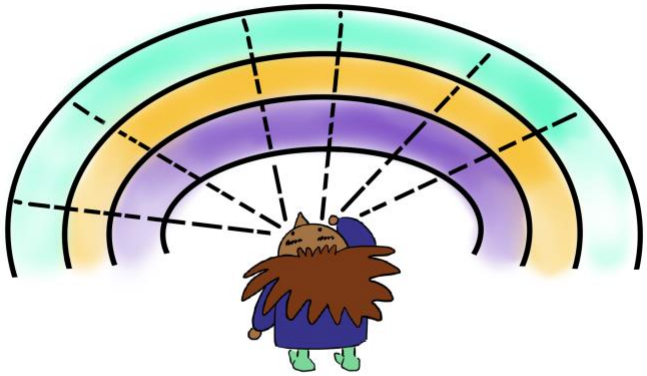
Slide 4:



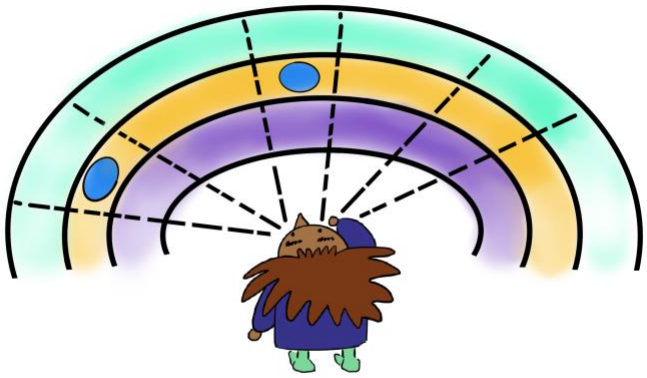
Slide 5:



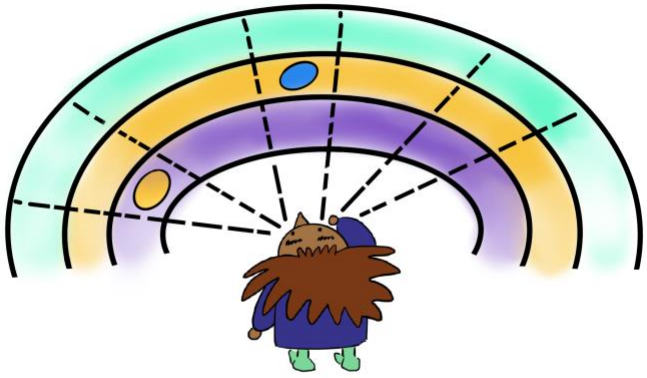
Slide 6:



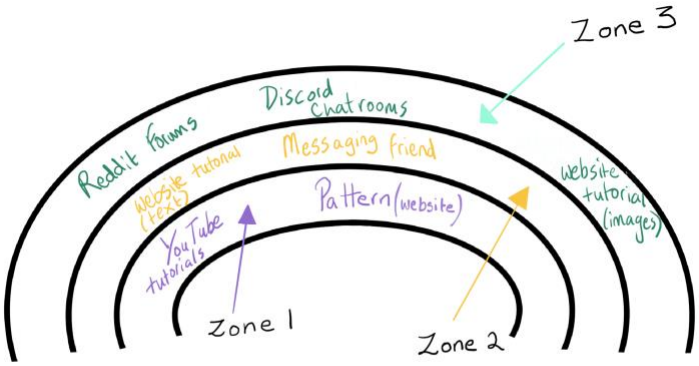
Slide 7:



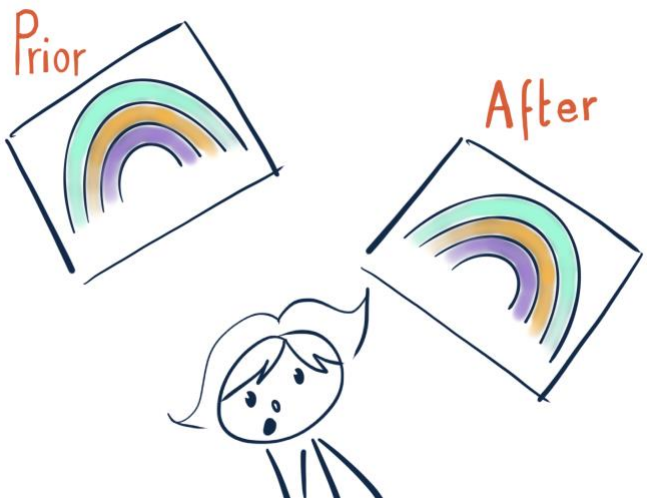
Slide 8:



Slide 9:



Slide 10:



Slide 11:

Appendix J. Codebook

Hobby Type: the type of hobby carried out by the participant for the study.

Project Goal: the participant's goal for their chosen project for the study

Session Goal: the participant's goal for their research session for the study

Session Time: how long it took participants to complete their study

Time: when participants bring up time

Cost: when participants bring up monetary cost

Materials: when participants bring up the materials being used for project

Visualizing: when participants bring up visualizing as a way of understanding

Resource Type (Before): the type of resource, such as YouTube, blogs, or patterns, and information/statements from the participant about that resource prior their search session

Resource Type (After): the type of resource, such as YouTube, blogs, or patterns, and information/statements from the participant about that resource after their search session

Awareness: when participants showed an awareness of their information seeking habits

Inspiration: when participants showed an interest in inspiration or other design factors

Horizon Same: how and when first and second horizons were the same

Horizon Difference: how first and second horizons differed

Horizon Surprise: when participants show surprise or lack of surprise at their horizons

Social Aspect: when participants bring up their social environment

Helpful Prediction: what were participants predictions regarding helpfulness

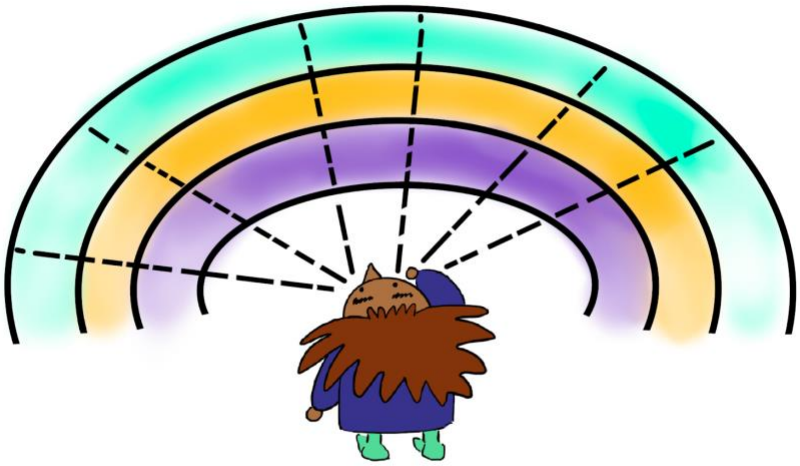
Overall Success: were participants search sessions successful

Appendix K. What is an Information Source Horizon Map?

What is an Information Source Horizon Map?

An information source horizon map is a drawing of a semi-circle that is sliced into three different layers called Zone 1, Zone 2, and Zone 2. It is visually similar to a rainbow.

Imagine you are standing right in front of the rainbow. The things directly in front of your line of sight are more apparent, but things far away and at the edge of your vision seem less important.



If resources are placed in Zone 1, this means you prefer them the most. The farther away you place resources from Zone 1, the less you prefer to use these resources. If you place Resource A in Zone 1 that is right in front of you and another Resource B in Zone 1 but i

is located near the edges of the rainbow, this means that you prefer or are giving greater credence to Resource A as it is more directly in your vision.

Think about the relationship between you and your resources. If something is placed in Zone 2, but more directly in your vision, is it more important to you than something placed in Zone 1 which is on the periphery? There is no right or wrong answer! So, just go with what feels right to you.

Below you can find an example of an information source horizon map that I created based on a recent personal project. For myself, messaging my friend for advice was more important to me and is more directly in my field of vision, but I used the YouTube tutorials more. However, instinctively they feel less important to me than the key advice my friend gave me, so I placed them on the periphery.