RELEVANCE CRITERIA WHEN SEARCHING AND EVALUATING

ONLINE VIDEO FOR INFORMATIONAL USE

Erin Dewitt-Miller, B.A., M.S.

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

May 2023

APPROVED:

Shawne D. Miksa, Committee Chair
Brian O'Connor, Committee Member
Linda Schamber, Committee Member
Jiangping Chen, Chair of the Department of
    Information Science
Kinshuk, Dean of the College of Information
Victor Prybutok, Dean of the Toulouse
    Graduate School

Dewitt-Miller, Erin. *Relevance Criteria when Searching and Evaluating Online Video for Informational Use*. Doctor of Philosophy (Information Science), May 2023, 184 pp., 31 tables, 4 figures, 6 appendices, references, 126 titles.

Relevance is a core concept in the field of Information Science and a common term in everyday vernacular that generally refers to the usefulness of information. However, relevance has not been sufficiently or consistently defined or explored in the information science literature. Relevance criteria are the factors that information users employ when determining whether information they encounter is relevant. Identifying relevance criteria is a crucial step to understanding relevance. Relevance criteria employed with newer information formats like online video are especially important to study. Online video is now widespread, and people are increasingly likely to rely on video for information. This study identifies relevance criteria employed during relevance assessments of online video through a explanatory sequential mixed-methods study of frequent online video users including students, faculty, librarians, and video professionals. Methods included an online survey and interviews.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude to my committee for their guidance throughout my dissertation journey. My chair Shawne Miksa, for her mentorship and encouragement and for the confidence she consistently expressed in my research. Linda Schamber, who not only paved the way for this project with her own work, but also for her time, her helpful suggestions and input, and for the passion and interest she has for this important research area. And Brian O'Connor for his unique perspective and thought-provoking insights.

I would also like to extend my sincere thanks to the University of North Texas Libraries for providing me with access to research materials and support for this project.

I want to thank my amazing husband Josh, whose love, positivity, and unwavering support made this possible. And my family, especially my parents who raised me with the skills needed to accomplish a PhD and who never stopped believing in me. Finally, many thanks to all of my friends that have encouraged me and celebrated with me along the way. I truly couldn't have done this without y'all!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION TO STUDY

Background of the Problem

Online video has become an important source of information for many people in the 21st century. The rapid trajectory of online video to its current level of ubiquitous value as an information source is remarkable, considering that YouTube, possibly the most prolific and pervasive online video platform in the world, has existed for fewer than two decades. During those two decades, online video has become a format not only for entertainment but also for learning and education. For example, 87% of YouTube users report that the platform is an important source of information for learning how to do new things (Smith, et al., 2018). A national survey found that by 2012 video was an expected information format in more than 70% of academic classrooms (Housewright et al., 2013). Given the obsolescence of traditional video formats such as VHS, and the decline in popularity of traditional formats such as network television and DVD players, the use of online video as an information source is becoming more crucial to information behavior research than ever before.

The idea of relevance is central to information behavior studies but has not been consistently or sufficiently defined (Saracevic, 2016). This is especially true for newer information formats like online video. Originally perceived as a being a value that researchers or information system designers could assign objectively to a document, studies of relevance within information science began to influence information retrieval by recognizing that relevance is more complex than can be defined by any assigned single value (Norton, 2010). Over time the concept of relevance has been adapted to include "higher order relevances, such as cognitive relevance and situational relevance, in addition to algorithmic and topical relevance" (Ingwersen

& Järvelin, 2005, p. 1). However, "the critical step of showing how relevant objects become relevant is often shrouded in mystery" (Saracevic, 2008).

It is necessary to consider information seeking behavior, including relevance judgments, with online video as distinct from user interaction with online images or textual data. Multiple studies have found that relevance criteria used to evaluate visual information, including video, differ from those applied to text-based documents. Additionally, interactions (which may impact relevance) differ between information formats. In a 2010 user study involving 36 participants, researchers compared search tactics used with video to search tactics used with text and found that "video differs from text in at least three critical ways: it has a visual stream, it has an audio stream, and it is played sequentially over time" (Wildemuth et al., 2010, p. 255). Furthermore, they found that video searching is similar to image searching but different in that spatio-temporal and audio features are also considered when searching for video.

Because users often choose to watch a video in order to decide whether it is relevant (which takes more time than skimming a text-based document), the effectiveness of relevance ranking for online video is more important than the effectiveness of relevance ranking for text (Arslan et al., 2010). Additionally, browsing video is more time-consuming and difficult than browsing text (O'Connor, 1984; O'Connor, 1985). Even minor adjustments to the browsing features of online video platforms have significant effects on user satisfaction (Hurst, et al., 2004, p. 1093). Furthermore, unlike image or text-based information platforms, common features of video information retrieval systems include not only text-based indexing but also sometimes content-based indexing; video surrogates that allow for browsing including storyboards, keyframes and pinpointing; and various interactive features designed to support the needs of specific users (e.g., the ability to build playlists or create video clips).

Further research into how relevance is determined is needed in order to better understand how people make relevance judgments, especially regarding newer information formats such as online video. This study sought to identify relevance criteria used for finding and selecting online videos for informational purposes, and to determine whether relevance judgments of online video rely on similar or identical relevance criteria that have been previously identified for non-textual information (Schamber, 1991; Yang, 2005; Albassam & Ruthven, 2018). Common interactions used for finding and evaluating the relevance of online video that were observed in a user study of online video interactions conducted in 2016 were considered as potential relevance criteria (DeWitt-Miller & Wang). Data were gathered through an online survey followed by interviews that involve the evaluation of online videos for relevance.

<center>Problem Statement</center>

Understanding relevance and identifying criteria by which people make relevance judgments is central to the pursuit of teaching information users how to use information appropriately, to designing platforms on which online video can be accessed, and to the field of information science, which needs a clear definition of this concept.

The idea of relevance is central to information science theory and practice but there is no consensus as to an overarching definition. This is especially true for new formats of information for which user behavior is less understood than for traditional, text-based formats. Online video has become a primary source of information for many current information users but the information behavior, particularly relevance assessments, of online video users is not sufficiently researched or understood.

Identifying relevance criteria is necessary to the development of information retrieval platforms that support online video. Information retrieval systems of online video now include

<center>3</center>

both mobile and desktop interfaces on platforms as diverse as Twitter, Netflix, and the New York Times. The design of these interfaces is still very much in early days. Identifying relevance criteria employed for online video can inform and improve these designs.

Understanding how users assign usefulness to online video is also critical to education in today's information landscape. As "fake news," social media, and viral videos impact the very political structure of our government, information literacy has become a survival skill; understanding the way that people process and apply information relies on being able to identify the criteria by which people decide information is relevant.

Purpose Statement

This study's purpose is to identify relevance criteria applied during relevance judgments of online video through a user-focused multi-stage exploratory design.

Research Questions

1. What relevance criteria do information users employ when searching for and evaluating the relevance of online video for informational purposes?

2. How do the interactions users make when assessing relevance of online video for informational purposes impact relevance criteria?

Method of Study

This study employed an explanatory sequential mixed methods design (Creswell, 2014). Data were collected in two stages, the first of which impacted aspects of the design of the second stage. Both stages involved qualitative as well as quantitative techniques. A mixed method approach is preferred because "the combination of quantitative and qualitative data provide a more complete understanding of the research problem than either approach by itself" (Creswell & Clark, 2010, p. 8). The first stage of research consisted of an online survey that collected a

range of feedback about online video perceptions, usefulness, and information behavior, including relevance judgments, from the user groups targeted in this study. The second stage of research consisted of online interviews with one of the primary user groups. Questions asked during this stage were partially informed by information gleaned during the analysis of the online survey.

<div align="center">Assumptions and Limitations</div>

One of the assumptions of the study is that the participants represent a larger sample of online video users. The represented population includes media-focused professionals of a wide variety of backgrounds as well as undergraduate and graduate college students. Because of the growing use of online video among all adults in the United States the sample population may represent a wider population than just media-focused professionals and students, but further testing will be necessary to determine whether that is the case.

Limitations of the study include the relative homogeneity of the participants. Studies have shown that there is a difference between expert and nonexpert users of information (Christel, 2007; Turner, 2011) and that how knowledgeable an information user is about the topic they are researching may also have an impact (Albertson, 2010). Participants targeted in this study (professionals, librarians, faculty, and students who interact with online video frequently) may employ different relevance criteria, or employ relevance criteria differently, than people whointeract with online video less frequently.

Focusing on a relatively small sample of a specific type of users makes it difficult to generalize findings to all users of online video for information. However, a recent review of qualitative studies found that sample sizes of 9-17 interviews are sufficient in studies with relatively narrow focus on a homogenous user group such as this one (Hennink & Kaiser, 2022).

<div align="center">5</div>

Additionally, previous user studies focusing on relevance or relevance criteria have identified numerous criteria despite the necessarily small sample sizes.

Significance of Study

This study is intended to provide both conceptual and practical value to the field of information science. Continuing to work toward a comprehensive definition and understanding of relevance, this study is focused on a concept at the core of all information behavior studies. By studying relevance criteria for evaluating online video this study brings newer information formats into this focus. This is necessary for the advancement of the definition of relevance and thus for the advancement of the field of information science.

This study also provides practical value to studies or design of information retrieval in fields such as human computer interaction and computer science. Looking specifically at interactions (scrolling, pushing play, scrubbing through a video, querying, etc.) provides insight into specific behaviors associated with relevance judgments and elucidates problematic or frustrating results of interactions. This could lead to the identification of features to include in platform design. Designers of online video platforms can apply the relevance criteria identified through this study to make platforms more intuitive and useful.

Understanding how today's information users assess online video can also provide practical and conceptual value to the fields of education, social science, political science, journalism, and more. People make relevance assessments based on invisible features of information retrieval systems–a fact that is especially concerning given the manipulation of information through social media, propaganda, and news outlets. Identifying relevance criteria for online video can impact how people are taught to evaluate and remain skeptical of information. A better understanding of relevance could be useful to postsecondary teachers,

college or university faculty, librarians, and others that work to help people navigate information effectively.

Definitions

- *Browsing*: A type of interaction that is used heavily in searches for visual information that involves scanning through surrogate images, online video, captions, transcripts, or other information. The information being browsed may have been retrieved as the result of a specific search which might make browsing an aspect of a focused search rather than an unfocused search as defined by Bodoff (2006) and O'Connor (1993). Scrubbing through an online video is a type of browsing.

- *Information user*: An individual with an information need who is actively searching for, assessing, interacting with and/or evaluating information objects in order to fulfill that need.

- *Information need*: A gap in knowledge or understanding that precipitates a need for information; an anomalous state of knowledge (Belkin, 1980).

- *Informational purposes*: Used in this paper to indicate the process of seeking information in order to fulfill an information need (rather than for entertainment).

- *Information literacy*: "A set of abilities requiring individuals to 'recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.'" (Presidential Committee on Information Literacy, 2006).

- *Interactions*: Singular actions that users can make with an information source. Examples include turning a page in a book, clicking pause on a video player, using the back button on a browser, or scrubbing (skipping to different points on the timeline) in online video.

- *Multimedia*: Multiple formats of information encountered in one source that may include still images, moving images, audio information and text. For the purposes of this paper

video is considered multimedia information as it contains both images and audio as well as text-based information. Multimedia may be available on physical formats (e.g., VHS tapes or DVDs) or online (e.g., online video).

- *Non-text-based information*: Any format of information that relies on images, moving images, or audio rather than text including online video.

- *Online video*: Digital video that can be discovered and accessed through a platform available on the Internet.

- *Relevance*: The concept or measurement of how closely an information resource matches an information need.

- *Relevance criteria:* Characteristics of an information object that information users rely on to make relevance judgments. Relevance criteria are subjective, situational, and dynamic.

- *User-oriented relevance*: Extent to which information matches the needs and interests of a specific user (versus system-oriented relevance which measures the reliability and accuracy of information retrieval systems). Unless explicitly stated otherwise (i.e., as in the phrase "objective relevance"), relevance as referred to in this paper is user oriented.

CHAPTER 2

LITERATURE REVIEW

Introduction

This literature review covers a general overview of relevance in information science,
focusing mostly on user-oriented relevance viewpoints rather than system-oriented relevance.
From a user-oriented perspective relevance is the assessment of information as useful and is
subjective, dynamic, and personal. Relevance criteria and relevance criteria user studies provide
a rich but incomplete background for this study, so these are also covered in the literature review.
This literature review also covers video as information and online video information behavior;
the ways in which video as an information format is useful and the ways which users interact
with online video.

User-Oriented Relevance

Saracevic (2016) calls relevance the "invisible hand that governs" systems of information
and notes that resources as seemingly disparate as Amazon, academic databases, and websites
like the Library of Congress all present the same issue for users and for information scientists.
Over the past century or so a variety of relevance frameworks have been introduced to
information science from other disciplines. Several reviews of scholarly literature on relevance
in the information science field have already been written (Saracevic, 1975; Schamber et al.,
1990; Borlund, 2003; Mizzaro, 1997; Saracevic, 2007a; Saracevic, 2017). Relevance has been
called "the degree of fit between the question and the retrieved item. . . 'aboutness'" (Saracevic,
et al., 1988). Relevance has been described as "among the most exciting and central challenges
of information science, one whose solution will carry us into the 21st century" (Schamber et al.,
1990, p. 774).

A review of relevance published in 2011 identified several types of relevance that have been discussed over the years (objective relevance, subjective relevance, situational relevance, pertinence, utility, and psychological relevance), and referred to relevance as remaining a 'black box' (Wang, 2011, p. 37). With the exception of objective relevance, each of these are user-oriented views of relevance. A 2018 study comparing user and system relevance determined that "there is a substantial difference between users' and search engines' relevance evaluation of search results; to find ways to reduce this gap, more research is needed into this field" (Zhitomirsky-Geffet et al., 2018). While this particular study focused on textual results of search engines the need for more research may be especially true for newer formats of information like online video. Information sources can "have the same subject (or the same aboutness) without having the same relevance" depending on characteristics of users–the topic of a document is decided by the user rather than inherent to the document (Hjørland, 2001, p. 777).

Early models of relevance were largely focused on machine relevance and took little account of user behavior and preference (Saracevic, 2017). In 1986, Swanson referred to this as "objective relevance" as opposed to user-oriented "subjective relevance" (Swanson, 1986). Early definitions of relevance focused on information retrieval systems rather than users (Perry, et al., 1955). Similarly, studies were system-oriented and mostly unconcerned with user-defined relevance, as in the series of Cranfield tests in the 1950s and 1960s (Cleverdon, 1967).

However, without including the information needs and behaviors of real users this methodology of testing relevance was eventually recognized as being fundamentally inadequate (but not necessarily invalid) (Salton, 1992). In 1992, a paper based on an earlier publication by Dan Sperber and Deirdre Wilson in the field of Linguistics, reaffirmed the centrality of the user to relevance, calling earlier testing methods of relevance "faulty" (Harter, 1992).

Users began to be considered crucial to studies of relevance only in the 1960s. Tests conducted during that decade involved mainly experts in information seeking like computer professionals and college students (Rath et al., 1961; Cuadra & Katter, 1967; Rees & Schultz, 1967). A paper published in 1964 stated that "human judgments must be used for these evaluations" and called for further research in this area (Resnick & Savage, p. 93).

However, it was not until the late 20th century that this concept resulted in a large number of user-oriented relevance studies. A 1988 study involving 40 participants, mostly faculty and students but a few industry professionals as well, focused on relevance assessments and information seeking processes of users in an ecologically valid ("real world") context while still focusing on the traditional system-oriented relevance qualities of precision and recall (Saracevic & Kantor).

In 1990, information science researchers presented a critique of the system model of relevance, determining that relevance is dynamic, changing over time and according to user characteristics rather than something that can be assigned to a document as a permanent characteristic (Schamber et al., 1990).

Although not specifically focused on investigating relevance, Kulthau's influential model for the information seeking process was heavily user-focused and included the concept of relevance (although without defining it) in her model of information seeking behavior; her paper called for additional research on user behavior, noting that this called for new methodologies designed to investigate new information behaviors (Kulthau, 1991).

Another study involved users in an experiment wherein they were tasked with identifying the most relevant sections of text in documents (Barry, 1994). Park (1994) called on information retrieval researchers to prioritize user perspectives–especially as the design of information

retrieval systems was increasingly focused on developing systems for end-user interaction. Multiple additional studies maintained this user-centered view of relevance through studies involving various combinations interviews, questionnaires, and task completion (Janes, 1991; Cool, et al, 1993; Bruce, 1994; Howard, 1994; Spink et al., 1998; Greisdorf & Spink, 2000).

Mizzaro proposed that relevance manifests in various combinations of dimensions including information sources, information needs, time, and components related to searching and evaluating information (Mizzaro, 1998). What is judged to be relevant by a user is subjective and impacted by changes in environment and user expectations over time (Saracevic, 1996; Mizzaro, 1998; Tombros & Crestani, 2000). Because relevance may change over time it is necessary to re-evaluate relevance as information interactions change in response to the development of new information formats and interfaces.

Since the 1990s the concept of relevance in the field of information retrieval continues to be seen as multifaceted and situational (subjective) rather than binary and unchanging (objective) (Ingwersen & Järvelin, 2005). An early 21st century review of the literature reaffirmed that relevance is multifaceted and situational and that relevance criteria may change as a result (Borlund, 2003). Hjørland (2010) points out that even the so-called objective view of relevance is based on the subjective views of information retrieval systems designers. Saracevic identified four manifestations of relevance used within information science: system relevance, topical relevance, cognitive relevance, and situational relevance and claimed that all "human information behavior models have relevance at their base. . . .in effect they are relevance models" (Saracevic, 2017, p. 40).

Relevance studies involving users have proliferated in information science since the end of the 20th century and now include methods such as eye-tracking, social media analysis, web

query analysis, as well as more traditional methods such as questionnaires, interviews, task analysis, and direct observation (Choi & Rasmussen, 2002; Balatsoukas & Ruthven, 2012; Zhitomirsky-Geffet et al., 2018; Pian et al., 2016; Li et al., 2017; Akuma et al., 2016).

Relevance Criteria

An overview of the literature on relevance published in 1990 recognized that there was no consensus on the definition of relevance and proposed that the ideal way to study relevance involved identifying criteria and clues that users employ to make relevance assessments along with studying the characteristics of documents that provided those criteria or clues (Schamber et al.). Before 1990, few studies were conducted to categorize the criteria users employ during relevance assessments. In the years since, more studies on relevance criteria have been conducted. In fact, since 1990 relevance studies have focused in one of three areas: criteria, dynamics, or feedback (Saracevic, 2017).

Studies completed during the 1990s and early 21st century began identifying relevance criteria by observing users' information seeking behavior with text-based documents (Cool et al., 1993; Fidel & Crandall, 1997; Schamber & Bateman, 1999; Taylor, 2012). Park (1993) applied naturalistic inquiry in a study involving 10 graduate students and faculty, using interviews to solicit details about relevance judgments. She identified 3 categories of criteria: external context, problem context, internal context (internal to the user). Interpreting her results, Park opines that "relevance is not a variable that allows precise measurement" and "that the issue of measurability deserves further attention" (p. 346). She suggests employing qualitative methodologies and seeking to identify relevance criteria at various stages of information seeking and from various perspectives rather than seeking precise measures of relevance like precision and recall,.

Barry (1994) conducted a study involving students and faculty at Louisiana State

13

University. Testing involved information searches of text-based documents for topics that related to undergraduate, graduate, or doctoral level assignments or scholarship, depending on the level and research needs of participants. Allowing participants to select the topics related to their own individual information needs enhanced the ecological validity of the testing thus making results more valid. Participants then analyzed portions of the returned documents to indicate and explain orally whether they considered the document relevant to their information need. Responses were coded and categorized. Through this process, Barry identified 23 categories of criteria that she broadly grouped into what information each document contained; previous experience of users; other available sources of information; where each document originated; affordability and availability of the document; and criteria specific to a user's personal situation.

Often relevance criteria are referenced or qualified in information science literature as if they are inherent in features of an information source itself (e.g., clarity, depth, format, etc.). However, criteria are all dependent on and inherent within the users of information rather than within the information; perception of depth depends on a user's knowledge of a topic; perception of clarity depends on a user's ability to process and interpret a format (Allen, 1996, p. 197). User studies attempting to measure or define relevance criteria of information formats beyond text-based documents indicate that relevance criteria change according to the expectations of users for the format being evaluated and in response to the nature of the information format itself.

Multiple user studies have identified that the presentation, organization, and appearance of an information source impacts relevance judgments. For example, the order of retrieved documents in a search results list impacts relevance judgments (Huang & Wang, 2004; Xu & Wang, 2008). Another study of information users found that search tactics impact relevance judgments (Saracevic & Kantor, 1988). Tactics measured in this study were the number of times

that a string of search commands resulted in accessing and evaluating a document; the number of search commands (which this paper is referring to a 'interactions') overall; and the number of search terms used. Findings show that the frequency of completing a series of commands and the number of search terms used impacted relevance; the number of individual commands did not.

<p style="text-align:center">Relevance Criteria Studies of Non-Text Based Information</p>

Studies on relevance criteria employed to make relevance judgments of non-textual documents are less prevalent in the literature than studies that focus on text-based documents. Given the changing nature of information from being primarily shared through journals, newspapers, books, and other text-based formats this research area still holds a wide range of opportunities for exploration. However, a few key studies stand out in the literature as contributing to the understanding of non-text information such as multimedia, images, digital, and other formats.

Schamber (1991) conducted a user study involving 30 professional users of weather-related multimedia. Through interviews with the participants, she identified 32 criteria: 22 sub-categories grouped into 10 overarching categories. The categories are accuracy, currency, specificity, geographic proximity (i.e., the location of a weather event and its nearness to the user), reliability, accessibility, verifiability, clarity, dynamism (i.e., the interactiveness of the information, e.g., being able to zoom), and presentation quality.

Markkula and Sormunen (2006) studied relevance criteria used during searches for images as a component of work tasks undertaken by journalists. Four categories of relevance criteria were identified: topicality; technical; contextual attributes; and visual attributes. Although not seeking specifically to identify relevance criteria, Tombros and Crestani (2000) identified several factors applied to relevance judgments of spoken text versus written. Results of

this user study that involved text documents presented auditorily included the observation that relevance judgments of spoken word take more time than judgements of written words and are impacted by voice conditions and the proximity of the speaker.

An investigation of search terms used for finding appropriate online images found that information users may not rely on different criteria when searching for non-text based information but may place different emphasis on the types of criteria - for example, the emotional connotations of a visual information source are valued over criteria such as accuracy or authority (Choi & Rasmussen, 2002). Although not specifically a study of relevance this study supports the likelihood that information seeking behavior, which includes relevance judgments, differs for images versus text documents.

Inskip et al. (2010) studied expert users of music recordings as information and found emphasis on criteria such as "mood" and other affective, nonspecific factors related to content. In a user study of medical professionals and their relevance assessment of medical images, Sedghi et al. (2013) identified criteria including the orientation of images, age and gender of the subjects in images, and the degree of magnification. Reichenbacher et al. (2016) conducted a user study focused on the relatively new information format of online mapping to identify relevance criteria for geographic entities. The researchers found that when information seeking is for locational information users applied relevance criteria including not only topicality but also cluster, colocation, directionality, and spatiotemporal proximity.

Watson (2014) conducted a user study involving high school students and websites that were largely text-based but also contained images, video, and other multimedia. Watson found that in addition to traditional relevance criteria students relied on what he called "system-provided metadata clues" including the results at the top of a search engine results list as well as

16

the structure and content of URLs (p. 1393). Additionally, students depended on the price of access to an information source and whether a video, rather than text, would be a suitable format of information for their particular information need. Although some students judged the availability and suitability of video as a criteria factor in favor of assigning relevance to a source, for other students the perception that video was harder to analyze and took more time to process than text (as it involves watching rather than reading) factored into their negative relevance assessment.

<div align="center">Video and Relevance Criteria Studies</div>

Very few studies have focused on relevance criteria and video, and even fewer on online video despite the proliferation of that information format. Hertzum (2003) investigated requests for video information sent to a film archive and found that many requests involved relevance criteria specific to video such as factors related to production, screening characteristics, and subject-related characteristics like emotional experience.

Another study specifically focused on video and relevance criteria also found that criteria applied to video are different from those applied to text-based documents. This research was completed in 2005 -- the early days of online video–and focused on physical formats such as VHS tapes and DVDs. Twenty-six media professionals, with roles ranging from film editors to media librarians, were interviewed and their responses coded. Some of the participants also completed tasks while engaging in the think-aloud protocol. Thirty-seven relevance criteria were identified, more than is typical in textual relevance criteria studies. Topicality was the most employed criterion, as seems to be the case for all relevance judgments, although users relied on topicality to assess relevance less frequently than is typical for text-based relevance assessments. However, other criteria identified are unique to video including scene-level information and

cinematography. Criteria were also observed to be more diverse than those applied during relevance judgments of text (Yang, 2005).

Another study investigated relevance criteria and online video sought for entertainment rather than for informational purposes identified 28 criteria that the researchers grouped into 8 categories: informational content of the video; users' background; user's beliefs, preferences, or situation; quality or source of a video; audiovisual characteristics; accessibility; related information; and recommendations or opinions of others. The informational content category was most applied, especially topicality, but with less emphasis on the value of knowing the creator of a video than previous studies. The authors speculate that this lack of emphasis is due to the focus on finding entertaining, rather than informational, videos. Several new criteria for video were identified through this study including habitual or repeated watching of video; recommendations accessed through YouTube, advertisements, and social media; and familiarity or identification with the subject of a video. Again, it is possible that these criteria are more likely to have value to users seeking to be entertained by video rather than informed by video (Albassam & Ruthven, 2018).

Both recent video-focused studies found that relevance is dynamic and situational (Yang, 2005; Albassam & Ruthven, 2018). Despite the numerous studies and resulting criteria identified over time, it is still unclear whether there may be overarching categories or types of criteria that can be applied to all types of information. Part of this is due to a tendency on the part of researchers to use different terms for similar or identical criteria in different studies (Maglaughlin & Sonnenwald, 2002).

A comparison undertaken by Barry & Schamber (1998) of two user studies that both focused on identifying relevance criteria but that involved different user types and different

formats of information concluded that the relevance categories were identical in many cases. Identical categories included depth, accuracy, clarity, currency, tangibility, quality of a source, accessibility, availability, verification, and affectiveness (p. 227). However, some criteria were unique to each study or information format; this is likely "an indication of the extent to which the process of inductively defining categories from the responses of individuals examining information from different types of sources affected the resulting categories and definitions" (p. 228). A review published in 2007 identified seven categories of relevance criteria that may be broad enough to account for all specific relevance criteria used to assess online video:

- Content: topic, quality, depth, scope, currency, treatment, clarity

- Object: characteristics of information objects, e.g., type, organization, representation, format, availability, accessibility, costs

- Validity: accuracy of information provided, authority, trustworthiness of sources, verifiability

- Use or situational match: appropriateness to situation, or tasks, usability, urgency; value in use

- Cognitive match: understanding, novelty, mental effort

- Affective match: emotional responses to information, fun, frustration, uncertainty

- Belief match: personal credence given to information, confidence (Saracevic, 2007b, p. 2130)

Video as Information

The use of online video for learning is now commonplace, with 50% of adults reporting that they watch online video for educational purposes in 2013 (Purcell, 2013). Another study found that 68% of college students access and make use of online videos during their academic work requirements and 79% of them also use video to supplement their coursework through further learning (Leonard, 2015). Unlike textual information retrieval which has been studied

extensively, user needs regarding the organization and presentation of online video as information is still relatively uncharted (Albertson, 2013). As streaming video is now considered to be integral material for learning at educational institutions in the United States, including at the university level, the lack of research in this area may impede opportunities for students to connect with necessary information.

Alpert & Hodkinson (2018) found that 87% of student survey respondents had encountered a video being shown as part of a lecture during that semester. Results also show that an estimated 70% of in-person courses had shown a video in the previous week, a finding that implies that the majority of in-person courses use video as an educational information source. Most students were viewing video in the classroom via YouTube, much more so than any other source; they displayed a strong preference for online video over other sources. They also identified the reasons that students prefer video as an information source; the most-mentioned reasons were adding a higher level of interest or humor to a topic; variety to the presentation style of a course; and to get a better explanation of a topic.

Multiple studies have shown that video has a positive impact on test scores and student engagement with curriculum and is an effective information format for learning new behavior (Kay, 2012; Stockwell et al., 2015). Both college students and college faculty prefer online video to physical formats (Chao & Zhao, 2013; Otto, 2014; Horbal, 2018). Informational video is being increasingly included as a required component of academic courses due to the prevalence of the flipped classroom model and generally changing methods of teaching (Carmichael et al., 2018). Even as early in the days of online video as 2011 it was the most frequently assigned social media format in academia; 80% of faculty reported using online video in their courses (Moran et al., 2011).

Multimedia learning needs to be measured with its own system of assessment and based on distinct theory and models that are different from those of text-based learning (Kirschner et al., 2017). Mayer (2005, 2014) proposed a cognitive theory of multimedia learning that recognizes that information users process visual information, such as video, separately from auditory or textual information. The "dual channels" involved in processing these two distinct types of information can work in coordination with each other but are inherently different. The implications of this model further indicate the need to study information behavior of visual information, including relevance criteria, separately from studies of text-based information behavior.

At one time people took information presented on a computer as being more reliable than information in printed formats (Hess & Tenezakis, 1973). In a similar fashion people now may accept video-as-information as being more reliable than traditional formats of information; studies have shown that students value personalized video content over professionally produced video for learning including content on YouTube of which 80% is user-created (i.e., not professionally produced) (Guo et al2014; Sherer & Shea, 2011). Studying relevance judgments of online video may provide insight into how much the relevance criteria of 'reliability' or 'accuracy' are applicable or important to online video relevance judgments.

<div align="center">Video Information Behavior</div>

Many user studies of information seeking behavior include relevance judgments; however, few have focused on user-determined relevance and online video even though there are significant differences in information behavior compared to information behavior related to seeking text or static images. Much of the current research that is being done of the effectiveness of online video searching–which ultimately involves either an implicit or explicit judgment of

relevance -- largely ignores or minimizes the role of the user (TrecVid, 2016; Cobârzan et al, 2017). Video is a "time-based and multi-channeled" structure that "can be processed, indexed, linked, retrieved, presented, shared, used and distributed at different levels of segmented granularity" (Albertson & Ju, 2015, p. 215).

Although video shares some attributes with other information formats such as images it is ultimately unique (Albertson, 2013). A key distinction is that video provides "the illusion of motion and a sense of narrative" (Anderson & O'Connor, 2016). As a result of this movement video is changing and dynamic by nature. Features of video involve not only text but also audio, image, and spatio-temporal properties. The specificity of visual information presents unique challenges to description and thus the discoverability of video. Searching for video using textual description is difficult due to the fact that representing video through description is difficult: words can be generalized whereas images are inherently specific (O'Connor et al., 2008, p. 94). This uniqueness makes studies of user interaction that focus specifically on video important and may mean that frameworks of information retrieval standards and theoretical models related to text, images, or other information formats are insufficient.

Models of information interaction not based specifically on video are not likely to account for the variety of interactions possible with video. One proposed framework includes the most common user interactions that occur during a search for online video including querying, query qualification, navigating, and visual refinement (Albertson, 2013). In a review of the literature of visual information seeking Albertson (2015) advocated for user studies specifically involving online video as distinct from other information formats. Online video information seeking behavior involves "tasks, needs, criteria, considerations and decision making" as well as "actions, assessment, and selection of items" that are unique from textual information seeking

behavior (p. 1092).

Differences include the ways in which users execute information tasks, assign relevance criteria (which often includes visually oriented criteria such as size or quality of an information object), and interact with retrieval systems. The only published attempt at creating a model of information seeking specific to online video is based on a user study of 252 elementary, middle, and high school teachers. Five phases of the search process were identified: starting, scoping, applying, selecting, and iterating (Albertson & Johnston, 2017). Specific interactions made during the user study were not identified.

Video is inherently more difficult to make discoverable than text due to a "semantic gap" between words and moving images. (Enser & Sandom, 2003). Visual searching combined with text queries is shown to be particularly effective for locating online video, as is the use of a storyboard (a set of keyframe images taken from a video) for both making relevance assessments of video and navigating video (Christel, 2006). Searching successfully for visual information by relying on textual description relies on the information seeker to generalize/translate their specific visual information need into words–and not just any words. A challenge for all users because "meaning does not reside in the image. It resides in the beholder." (Greisdorf & O'Connor, 2008, p. 139). The search must simultaneously engage in predicting which words the indexers, metadata creators and system designers applied when organizing the visual information resources being searched. These challenges may lead to different criteria for relevance judgments; for example, faculty looking for video to support curriculum tend to rely on suggestions from colleagues to find relevant videos more than they rely on other information sources (Kaufman & Mohan, 2009; Otto, 2014; Horbal, 2018).

The discoverability of online video is more heavily dependent on interactive online

platforms that are complex and variable than is the discoverability of textual information (Lee & Smeaton, 2002). Typical video players rely on one of three methods for searching: textual keywords, visual examples or surrogates, or semantic conceptual terms (Schoeffmann et al., 2010). Interactions that users employ when searching for online multimedia (including video) fall into four categories: retrieval, dynamic query, browsing, and recommendation (Boertjes & Nijholt, 2007). One of the four variables found to affect information seeking behavior and interaction with online video includes characteristics of people such as the amount of experience they have with the information format (Marchionini & Geisler, 2002).

Like images and text, online video can be manipulated in a variety of ways; it can be shared, copied, downloaded, consumed, or even edited into clips in many online environments. Typical use of an online video platform involves more manipulation and interaction than either text-based or image-based environments (Halvey et al., 2014). Whether these features are easy to learn and manipulate directly affects whether users are able to find and access online video. In searching for online video, users play, fast-forward, rewind and adjust audio and other settings in order to discover the information they need. However, users face more challenges when searching for videos because video is inherently multimodal whereas image and textual information consist of just one mode of content (Halvey et al., 2014; Albertson, 2015). This means that video can be made discoverable by features that include both images and textual information as well as spatio-temporal, visual (color, shape, texture) and audio information (Albertson, 2010). This increases not only potential search strategies but may also impact relevance criteria.

A review of research on video interaction tools design identified 7 categories of tools being designed specifically to support discovery and interaction with digital video: annotation,

24

content (i.e., visual) browsing, collaborative, direct content manipulation such as editing video; content navigation (e.g., player scroll bars or keyframe scrolling); search querying or filtering (i.e., by visual content); and abstraction (Schoeffman et al., 2015). However, most of these proposed tools are still largely unavailable because mainstream online video platforms have not incorporated them and studies of user interactions with these tools are limited. Common features of current platforms that must be considered in user studies are vary widely between systems and include: an interactive video player; content manipulation features such as being able to clip, edit, save, download or share a video; a search component for keyword searching; browse-able visual results; and faceted textual results including subject lists, taxonomies and breadcrumbs that allow users to move through content following an initial query.

Previous studies of video information behavior indicate that search tactics are measurably different when users are searching in video databases as compared to text-based databases. An analysis of search logs for a digital video library found that users searching for video seem to apply search tactics differently than in textual information searches (Wildemuth et al., 2010). In this study common search tactics employed to find online video include displaying all results in order to browse without an initial directed query; adapting search terms to narrow or broaden results; adding or deleting a concept such as creation date, genre, visual attributes, and conceptual topics; and displaying or modifying results.

The results display and browsing functionality of a platform is especially important to users of interactive online video content, being a common method to narrow results from an initial query (Smeaton, 2007). Browsing visual information, especially moving images, is uniquely challenging due to the specific nature of the information being searched (O'Connor, 1984). Users almost always view the display results of a search after the first or second

interaction with a retrieval system (Wildemuth et al., 2010). "However, due to the linear and time-dependent nature of video signals, browsing them is much harder than skimming static data, such as text documents" (Hurst et al., 2004, p. 1093). Storyboards, which are a sequence of browsable keyframes, are considered a useful navigational tool for video retrieval but are sometimes of limited usefulness when videos contain few frame variations (for example, a recorded classroom lecture consisting of a teacher standing at a podium) (Christel, 2006). Browsing is also multi-faceted in video retrieval systems as it can involve browsing keyframes of video to assess overall relevance (static browsing) as well as panning within videos for specific content (dynamic browsing).

Summary

The uniqueness of video as an information format and unique structures of information retrieval organization may contribute to different relevance criteria. Because online video is more interactive than text-based information or information that only consists of audio or visual formats, it presents unique challenges for organization, presentation and discovery. The interactions used when searching for online video are distinct from those applied during text-based information searching. These interactions may impact relevance judgments.

CHAPTER 3

METHODOLOGY

Introduction

This study employed an explanatory sequential mixed methods design (Creswell, 2014).

Data was collected in two stages, the first of which impacted aspects of the design of the second

stage. Both stages involved qualitative as well as quantitative research. A mixed method

approach is preferred because ." . . the combination of quantitative and qualitative data provide a

more complete understanding of the research problem than either approach by itself" (Creswell

& Clark, 2010, p. 8). Mixed methodologies and multidimensional assessments (including various

data collection methods such as interviews, task analysis, think-aloud, query log analysis, etc.)

are also specifically recommended for studying visual information seeking behavior (Christel,

2007; Christel, 2009).

The first stage of research consisted of an online survey that collected a range of

feedback about online video perceptions, usefulness, and information behavior, including

relevance judgments, from the user groups targeted in this study. The second stage of research

consisted of online interviews with one of the primary user groups. Questions asked during this

stage were partially informed by information collected during the analysis of the online survey.

Related Research

Although previous information behavior studies have attempted to identify relevance

criteria related to non-text information formats such as images or multimedia, studies focused on

online video as an information source are very limited. User studies of visual information

relevance assessments have involved surveys, interviews, think-aloud, task completion analysis,

query log analysis (Albertson, 2015).

Past studies of user-defined relevance criteria focused on other types of information such as text-based documents (Barry, 1994; Bateman, 1988), images (Hamid et al., 2017) or multimedia (Schamber, 1991). A study of relevance judgments of video that was completed in 2005 did not consider the specific search tactics that are used with online video and may influence relevance judgments separately from searching for video in physical formats (e.g. browsing shelves in a video store) (Yang, 2005). A recent user study of online video and relevance was limited in focus to leisure viewing and did not consider video as an information source (Albassam & Ruthven, 2018).

Many of these relevance-focused user studies collected data only through asynchronous methods such as surveys, interviews, or diaries. In this study, data will be collected not only through surveys and interviews but also by recording user interactions and perceptions through application of think-aloud protocols. Collecting responses to information sources in synchronicity with the act of discovery provides insight into relevance judgments at the moment at which they are made which minimizes opportunities for users to forget, change or reconsider their own relevance judgment processes and decisions (Watson, 2014). Interactions have been found to have a connection to larger information behavior patterns such as information needs based on work tasks (Li & Belkin, 2010). The interactions used to assess the relevance of online video in this study process will be recorded and analyzed; this will provide insight not just into the perceptions of relevance that users report but also into what specific interactions are most useful, or even necessary, to determining the relevance of online video.

Research Questions

1. What relevance criteria do information users employ when searching for and evaluating the relevance of online video for informational purposes?

2. How do the interactions users make when assessing relevance of informational online video impact relevance criteria?

Timeline

The survey instrument, interview protocol, recruitment scripts, data security protocol, and required consent forms were submitted to the University of North Texas Institutional Review Board and approved in May of 2019. The online survey was distributed in the summer of 2019 and all responses collected by early 2020. In March of 2020 research was put on hold due to the university closure in response to the COVID-19 pandemic. Original plans to complete interviews and work with students on campus were revised and research began again in the summer of 2022. Interviews were conducted in the fall of 2022. In November 2022, a modification was submitted and approved to allow auto-transcription of the interview recordings. All data was collected and analysis completed by mid-January 2023.

Study Participants

Purposive sampling was employed as a tactic to identify a population of interest for this study. Purposive sampling was chosen as it allowed the researcher to target individuals whose behaviors "will better inform the researcher regarding the current focus of the investigation" (Krathwohl, 2009, p. 172). The population of interest involved two distinct groups of information users, both of which are likely to use online video in an informational context: video professionals (documentary filmmakers, video distributors, media or collection development librarians that work with media, and media-oriented teaching faculty) and media arts and journalism students at the University of North Texas.

The first stage of the research was an online survey consisting of both open- and closed-ended questions focused on online video usage. The survey also included the opportunity for

respondents to volunteer to participate in the second study stage interviews. The survey received 275 responses from the combined population of students and video professionals, 204 of which were complete enough to be included in the analysis. Ten interviews were conducted in the second stage following the survey analysis. All the interview participants were in the professional category of study participants.

Survey Design and Execution

Survey Design

The survey instrument was designed with the intention of gathering background information about the participants' usage of online video as well as exploratory information related to relevance criteria and online video. Questions were created and ordered in the instrument following established guidelines for survey development (Krawthwol, 2009). Before distribution it was pretested for content validity with a small sample of the population targeted by the survey (including both students and professionals) as recommended for survey design (Litwin, 1995; Krathwohl, 2009). The pretest participants were questioned about their understanding of the overall intention of the survey; their responses confirmed the comprehensibility and focus of the instrument. They did not express confusion or frustration with the language or length of the survey. The survey instrument is available in Appendix A.

The opening page of the survey included the University of North Texas Institutional Review Board Informed Consent Form. Respondents were required to consent to participate in the research via this form before accessing the remainder of the survey. Two professionals and one student declined to participate after accessing the informed consent form. Following the informed consent form, participants were asked five demographic questions about their role as a student or professional, their gender, and their race.

The first demographic question was worded differently in the survey sent to students than it was in the survey sent to professionals. Students encountered a multiple-choice question to indicate their current grade level which included a write-in option for any nontraditional roles, and then an open-ended question to indicate their school or major affiliation. Options given for current grade level were first-year, sophomore, junior, senior, graduate student, and "other." Professionals encountered a multiple-choice question to indicate their current profession which included a write-in option for any roles not represented in the choices, and then an open-ended question to indicate their job title. Options given for current profession were librarian, educator, filmmaker, film distributor, and 'other.' The next question related to gender and was intentionally written as an open-ended question to allow people to indicate their own gender identity without implicit bias ("What is your gender?). Finally, participants were asked a yes/no question about Hispanic/Latinx heritage and then a multiple-choice question regarding race that also included a write-in option to allow for self-identification outside of the provided categories.

The multiple-choice and open-ended questions related to video usage were identical for both student and professional participant groups. The first eight questions elicited insight into usage and viewing frequencies of both physical format and online video and general reasons for watching either physical or online video. These introductory questions included two dichotomous questions about whether respondents searched for or watched either physical or online video, four open-ended questions about frequency of use of each format, and two ratio scale questions on frequencies of watching either physical or online video for distinct reasons (to keep up with news or current events; to learn how to do something new; for school or work requirements; for fun or entertainment; to research a topic of personal interest). The next two questions focused on how participants look for online videos. One multiple-choice question

31

allowed participants to select all platforms on which they search for online video (social media, subscription services, YouTube, catalogs or magazines, listservs, Google, library or academic sources, platforms other than Google, or other) and the following question asked them to rank which one of those platforms they used the most.

The next question used a Likert scale (from 'strongly disagree' to 'strongly agree' and including an option for 'not applicable') to gather information about how difficult respondents reported finding online video for either fun or entertainment, for learning to do something new, for school or work, to keep up with current events, and to research topics of interest. The final closed-ended questions asked respondents to select from a list of relevance criteria identified in previous studies in order to indicate what they consider when selecting an online video for the same reasons employed in previous questions (for fun or entertainment, for learning to do something new, for school or work, to keep up with current events, and to research topics of interest).

The last section of the survey included 3 open-ended questions designed to elicit details about how respondents look for and select videos for educational purposes, preference for learning via video compared to text, and challenges related to finding relevant video. At the end of the survey there was an optional question allowing participants to provide contact information to indicate interest in participating in the second stage of the study; this information was not required so that survey respondents could choose to remain anonymous.

Survey Data Collection

The survey was created online via the Qualtrics platform for which the University of North Texas provides access. It was then distributed to video professionals via public listservs (including VideoLib and ERIL-L) and by targeting media-related organizations' members via

institutional email lists (including the American Library Association Film & Media Round Table and the Video Trust Organization's Board). It was simultaneously distributed to students enrolled in courses in the Journalism department and the Media Arts Department at the University of North Texas.

The survey received 275 total responses between June 10, 2019, and April 24, 2020. Of these total responses 204 were counted with the final data. The 71 uncounted surveys were discarded due to incompleteness. A considerable number of survey respondents ($n = 106$) included contact information indicating their willingness to participate in the second phase of the study.

Survey Data Analysis

Analysis of the survey data was completed prior to the interview and task completion portions of the research and included only the data gathered from the survey. In this phase, independent variables (demographics such as age, gender, profession) and the multiple-choice questions were analyzed by calculating descriptive statistics using Microsoft Excel. Because the sample was purposive rather than representational and response rates of the various groups included were small enough that they cannot be considered representative of those groups, a statistical comparison of measurable differences between the groups was not warranted.

The responses to open-ended questions were analyzed through an application of analytic memo writing and pattern coding following guidelines primarily established in The Coding Manual for Qualitative Researchers (2014, Saldaña). The process of analytic memo writing allows for early patterns and relevant observations to be noted. Because analytic memo writing can contain "[f]uture directions, unanswered questions, frustrations with the analysis, insightful connections, and anything about the researched" topics (Saldaña, p. 45), these early memos as

well as the results from the coding provided insight into refining the interview questions. A codebook was created for one of the survey questions to provide structure and accountability to the coding process (Appendix B). Because answers to the open-ended questions were direct, transparent, and brief, typically consisting of at most a short phrase or sentence, codes were closely related to the language used by survey respondents and were only implemented to elucidate patterns. Thus, even though there were multiple open-ended questions only the question related to relevance criteria was complex enough to warrant a codebook. Because this categorization process was simple and straightforward the input of an additional coder to establish reliability was not necessary (Geisler & Swarts, 2020).

Interview Design and Execution

Interview Design

After analyzing the survey results, and consequently determining that the targeted population was using online video for information and so would have experience making relevance judgments, the interview structure and questions were finalized. Questions were written following established guidance for effective interviewing: questions were edited for length and designed to be "short and simple," jargon and easily misinterpreted language was avoided, and pretesting was completed to ensure that participants understood each question correctly and could answer appropriately (Krathwohl, 2009, p. 579). Pretesting also ensured that interviews, including task completion, could be completed within a reasonable period of about one hour. Participation in the interviews was incentivized by a grant awarded by the University of North Texas Libraries that purchased an Amazon Kindle Fire to award to each interview participant.

The interviews combined semi-structured and structured interview questions, as well as a

section of task completion during which interview participants searched for online video to fulfill

an information need while employing think-aloud protocol. This methodology made it possible

to gather insights about how relevance judgments are made in real instances of information

seeking. An interview protocol was created to guide the interviews and ensure consistency

(Appendix C). In addition to introductory and closing statements the interview protocol included

three sections–an initial section of five open-ended questions focused on background information

about participants and their video usage, a section of observed information seeking behavior

wherein participants searched for online video for information while thinking aloud, and 24

closed-ended questions about specific relevance criteria. Combining structured and semi-

structured interviewing techniques with observation can be a benefit to qualitative research

design (Creswell, 2014). In this case, doing so provided multiple avenues for collecting

information useful to exploring how relevance criteria are applied to searches for online video

for informational purposes and elicited greater insight from participants about their own

information behavior.

Including unstructured task completion in the interviews meant that participants were

more engaged with the interview process (Christel, 2007). The intention was also to observe

relevance judgments in a situation as close to "real-life" as possible, following examples set in

previous studies of information behavior (Saracevic et al, 1988). During the think-aloud portion

of the interview participants were asked to identify two information needs on any topic of

interest to them and then try to fulfill those needs by searching for online video or related

information using any resources available to them. Having participants identify their own

information needs that they then attempted to fulfill by searching for online videos added

ecological validity to the process. Ecological validity means that the observed information

behaviors and measurable outcomes are more likely to be generalizable to real-life information behavior (Usability First, 2015).

One potential shortcoming of think-aloud protocol is that study participants may not fully share all thoughts related to their decision-making processes - out of a sense of the additional time thinking aloud adds to the process, personal discomfort, selection bias, or simply because some judgments may be made almost subconsciously. Following the task completion with questions about specific relevance criteria meant that criteria which may have been unmentioned during the information searches and think-aloud portion could be identified and commented on.

Interview Data Collection

After the responses to the online survey were collected and the analysis completed, an email was sent to the 16 respondents in the video professionals' sample that had included contact information indicating a willingness to participate in the interview phase of the study. These emails informed participant that an incentive of an Amazon Kindle Fire would be provided to all interview participants. Ten of these individuals responded that they were still available and willing to participate. At that point, 10 interviews were scheduled, and the two consent forms required by the University of North Texas Institutional Review Board were emailed to each participant along with instructions. Because interviews included recording both video and audio, participants had to sign an Informed Consent form and a Video Release Form. At this time participants were also given basic information about the interview process, such as the time required, the need to have a fast, reliable Internet connection and access to a space where they could participate with minimal interruptions, and they were advised that their computer screens would be visible during the recording.

Interviews took place during the last two weeks of October 2022. One participant

experienced technical issues during the interview and had to complete part of it later in November. Once all interviews were completed each participant was assigned a random number (1-10) to make it possible to refer to the content of specific interviews while maintaining confidentiality. Interviews lasted between approximately 43 and 72 minutes with an average time of 53 minutes and 21 seconds (Table 3.1). All interviews took place using Zoom for which the University of North Texas provides a license. The locations of participants included various parts of the United States: New York, California, Michigan, Louisiana, Rhode Island, Pennsylvania, Illinois, Delaware, and New Jersey.

Table 3.1

Interview Schedule

Participant Number	Length of Interview	Date of Interview
Participant 1	52:11	10/24/2022
Participant 2	48:30	10/25/2022
Participant 3	45:57	10/25/2022
Participant 4	42:57	10/21/2022 & 11/17/22
Participant 5	44:15	10/26/2022
Participant 6	72:29	10/21/2022
Participant 7	51:18	10/26/2022
Participant 8	70:27	10/24/2022
Participant 9	45:57	10/21/2022
Participant 10	58:20	10/25/2022

This study was designed to continue interviews until saturation. Saturation, recognized as the point at which insights and themes become repetitive, was apparent after the first ten interviews. Following established guidelines related to data saturation and interviews no further participants were added to the study (Creswell, 2014).

After the interviews were completed and the files saved in a secure location, a

modification to the Institutional Review Board was submitted to allow for auto-transcription of the videos using Microsoft Stream, a video hosting product provided through the University of North Texas. Once approved, MP4 files of the interviews were uploaded into Microsoft Stream for auto-transcription. When transcription and analysis were complete the uploaded files were deleted from that platform. Because auto-transcription is not totally accurate the transcript files were downloaded from Microsoft Stream, converted to Word files, and carefully edited. These edits were completed while watching each video to ensure accuracy and add context about gestures, computer interactions, and other nonverbal cues to help interpret the data.

All video files, audio files, transcript files, signed consent forms, and related materials are saved on an encrypted hard drive and will be preserved following Institutional Review Board guidelines for the required length of time and then destroyed as mandated. An Amazon Kindle Fire was shipped to each participant on November 22, 2022. Participants were asked to send an email to confirm receipt.

Interview Data Analysis

The first step in analyzing the interview and task completion recordings occurred directly following each interview. Immediate observations were noted, including observed interactions (searching, browsing, scrubbing a video, etc.) that occurred immediately before, during or following the determination of video relevance. Additional notes were taken regarding whether the participant successfully fulfilled two information needs with online video, whether there had been technical issues or communication issues, and to record general observations of the process.

The first five questions asked during each interview provided introductory information about the participants. This information was summarized and is included in the Results Section of this paper. Questions asked during this part of the interview were as follows:

1. How many times per week would you estimate you look for and watch online video to learn about something? Reasons for looking for online video to learn something could be professional or personal.

2. What platforms or sources do you use to look for and watch online video for informational purposes? [If several are mentioned ask which they use most frequently]

Thinking specifically about using online video to learn something for either personal or professional reasons…

3. Can you give me some examples of what you try to learn by watching online video?

4. How do you decide which videos to watch for those reasons?

5. What are the biggest challenges you face when trying to find an online video for those reasons?

The think-aloud task completion took place immediately after the introductory questions and took one-half to two-thirds of the total time spent in each interview. A thematic inductive approach following accepted guidelines of content analysis was employed to analyze this content. A thematic inductive approach seeks to identify themes and patterns in content without applying a predetermined framework or previously identified themes. The portions of the interview that were coded for relevance criteria include the think-aloud searches and the five follow-up questions to each search:

1. Think about how you decided which videos were ideal. What specific features of the video or online video platform helped you select the video that fulfilled your information need? Please be as specific as possible.

2. Think about the interactions you made while searching for and watching the video. Interactions can include anything you did using the keyboard or mouse. Examples might be using your mouse or touchpad or using your keyboard. Were there any interactions that you made that impacted how you decided which video was the one you wanted?

3. Overall, do you feel that you found a video that gives you the information you were looking for?

4. If this were a real search, would you continue looking for more videos or other types of content? Why or why not?

5. What did you find the most challenging about finding online video in this case?

In order to avoid bias and adhere the analysis to actual relevance judgments made during the information searches, the first round of coding was completed with in vivo coding. In vivo coding is not related to the commonly used software, NVivo; rather, it involves employing participants own natural language to identify emergent patterns specific to the research questions and "refers to a word or short phrase from the actual language found in the qualitative data record" (Saldaña, 2014, p. 105). The decision to leave phrases spoken by participants intact during the first round of coding was made deliberately to preserve the intentions of each participant as closely as possible and because in vivo coding addresses the ontological and user-focused nature of the research question (Saldaña, 2014). It also assisted in approaching the data with a fresh perspective not biased by previously identified relevance criteria.

This round of coding was started simultaneously with the clean-up of the auto-transcriptions by highlighting key phrases in each transcript that related to relevance. This phase of the research involved reading each auto-generated transcript while watching the corresponding interview recording to adjust punctuation, insert nonverbal information such as when a participant displayed a related document on screen or performed searching behaviors without thinking out loud, and to correct misspellings. The auto-generated transcripts closely adhered to the content of the interviews other than mistakes made with punctuation and capitalization and a few phrases such as "has a tint on it" being auto-transcribed as "has intent on it" or "being a video librarian there" which was mis-transcribed as "being a video library and there." Such errors were easily identified and corrected by viewing the videos while reading and editing the transcripts. The auto-transcription software did not provide timestamps, so these were also added during this process in order to make it easier to refer to the transcripts and videos later.

Once all 10 interviews were put through the first round of coding, the first two transcripts were coded again to ensure phrases were noted at the same level of granularity as later interviews. The second round of coding was completed in Microsoft Excel. Using the highlighted in vivo phrases for guidance all content was copied from the transcripts into a column on an Excel Worksheet. In this round of coding the in vivo phrases were pulled from the text into separate columns. At this point patterns in relevance criteria were becoming apparent and could be preliminarily identified. These patterns emerged organically from the in vivo language codes of the first two rounds, in a process that is both "natural and deliberate–natural because there are mostly patterns of actions and consistencies in human affairs and deliberate because one of the coder's primary goals is to find these repetitive patterns of action and consistencies in human affairs in the data" (Saldaña, 2014, p. 6). Identifying these preliminary pattern codes made up the third round of coding. Pattern coding was applied because it supports the epistemological nature of the first research question (Saldana, 2014). For example, during the third coding stage the in vivo (natural language) code "it's a cross disciplinary network of researchers and practitioners" was coded as "organization that published video" which allowed a later code of "publisher" to be more apparent in the fourth round of coding.

During the third coding phase, the transcripts were continually reviewed to ensure that phrases identified during rounds one and two included all pertinent statements and were not taken out of context. Analytic memo writing was used to capture additional information about data in the transcripts and to track patterns as they emerged from the in vivo codes. These preliminary pattern codes were then formalized and standardized in the fourth round of coding. From these patterns certain themes emerged which then became the overarching categories of criteria that the subcategories (the pattern codes) could be grouped within. In the fourth round of

41

coding these codes were simplified to identify themes. For example, "organization that published video" (round two) and "video publisher" (round three) became the code "publisher."

All instances of phrases related to relevance judgments were coded whether they were repetitive. For instance, if a participant stated multiple times that videos in their search results were too long during one search each instance was coded separately. For this reason, one participant might apply a relevance criterion such as *length* several times during one search for an informational video as they were thinking out loud. Therefore, it was important to report both the overall frequency of mentions of criteria as well as the number of searches that included a criterion which might be a better indicator of the value of a particular criterion across information needs.

Once the pattern coding process was completed and a resulting codebook established (Appendix D) the codes were applied to the think-aloud portion of all ten interviews. At that point, a second coder was brought into verify this work by establishing intercoder reliability. Intercoder reliability is a measure of replicability, which is key to content analysis and is "the degree to which a process can be reproduced by different analysists, working under varying conditions at different locations" (Krippendorff, 2013, p. 271). The second coder applied the codebook to 10% of the content by randomly selecting one completed search from two different interview participants as recommended (O'Connor & Joffe, 2020; Krathwohl, 2009; Creswell, 2014). After the second coder read the codebook and tried to apply preliminary codes to the data the two coders met to clarify two terms in the codebook that were unclear ('interactions' and 'video content'). The second coder then completed coding portions of two transcripts.

The Krippendorff's alpha coefficient for this coding was 0.849, indicating a high level of reliability between the coders. Krippendorff's Alpha is a statistical measure of the reliability of

coding or categorization, and it is typically reported as a decimal value between 0 and 1. Once reliability was established, the first two interviews were coded again by the first coder to verify the stability of the findings. Stability is the degree to which a process can be consistently applied over time and is "measured as the extent to which a measuring or coding procedure generates the same results on repeated trials" (Krippendorff, 2013, p. 270). Those codes from the second process of coding the first two interviews were compared against the first round of coding and found to have 96% similarity which demonstrates high stability in how the codes were applied.

Finally, the 24 questions that made up the third portion of each interview were analyzed. Each of the criteria had been previously identified in related studies of relevance criteria and multimedia or video (Appendix E). Because of the high number of criteria identified in those three studies and the need to manage the time of each interview appropriately, only criteria present in more than one of those studies were included in the questions. The only exception to that was the question about interactions which did not appear in previous studies but was a specific focus of this research. These questions were highly structured, and responses were direct, so analysis involved extrapolating the data, counting responses, and then comparing those responses to the relevance criteria identified in the think-aloud section.

Limitations

As in all studies there are limitations inherent in the methodology. Possible limitations in this study include a potential lack of generalizability due to the small sample sizes and narrow population of both the survey and the interview portions of the research. Additionally, relying heavily on qualitative methods makes generalizability difficult. However, the inclusion of both qualitative and quantitative techniques and the value of purposive sampling may mitigate some of this limitation, allowing for more generalizability than if only open-ended interview questions

had been employed. Additionally, the exploratory nature of the study and the topic being researched mean that generalizability is not the goal of the research because the "value of qualitative research lies in the particular description and themes developed in context of a specific site" (Creswell, 2014, p. 205).

Bias is always a possible limitation in studies that involve human subjects such as "controlled experiments, interviews, focus groups, surveys, and projective tests are especially vulnerable to such errors" (Krippendorff, 2014, p. 45). In this study, a self-reporting bias may have occurred in the survey portions if participants did not accurately portray their own opinions and behavior. Recall bias may have also been a factor if participants were not able to accurately remember their own behavior. Additionally, expectations that interview participants might have had of the interviewer could have led to social desirability bias if participants tried to give responses that they considered to be favorable or acceptable to the interviewer. Steps were taken to mitigate researcher bias including establishing intercoder reliability and stability testing qualitative coding.

The Hawthorne effect is a concern for think-aloud information searches like those included in the interview as participants might change their behavior because they are being observed and potentially feeling awkward about talking out loud while completing common information-seeking tasks (James & Vo, 2023). Finally, researcher bias is always an area of concern for any study. To mitigate the risk of researcher bias in this study intercoder reliability was established for the qualitative coding of relevance criteria identified during the interview portion of the study. Stability was also verified for the codes assigned during that process.

Summary

The methodology of this study reflects an inductive approach to emergent findings,

"starting with an exploration of a phenomenon, gradually finding a focus that leads to an understanding or explanation of what was focused on" (Krathwohl, 2009, p. 30). The initial survey indicated that online video is heavily used for informational purposes and that respondents employ a variety of relevance criteria when seeking online video for information. The interviews elicited greater insight into the survey findings, building on generalities expressed in an asynchronous format to better investigate relevance judgments in a naturalistic environment. Employing a mixed methods approach to the study provided a more complete understanding of the research problem (Creswell & Clark, 2010). The multidimensional nature of the methodology additionally supported a comprehensive look at relevance criteria applied to the use of online video as information.

CHAPTER 4

RESULTS

In this chapter, the results of the survey and interviews conducted as part of this study are presented. The survey, which was distributed online via Qualtrics to a sample of participants including both video professionals and media students at the University of North Texas, aimed to explore the topic of online video and relevance criteria with both quantitative and some qualitative data. The interviews were conducted with a smaller sample of participants, 10 video professionals, and aimed to gather more in-depth, qualitative information. The results of both the survey and the interviews are analyzed and discussed in this chapter, with a focus on identifying key themes and patterns that emerged from the data. The chapter is organized as follows: first, the results of the survey are presented, followed by the results of the interviews. The findings from both the survey and the interviews are synthesized and discussed in relation to the research questions and objectives in the following Discussion chapter.

Survey Results

Demographics

The survey received 275 total responses; of these 204 were able to be counted with the final data. The majority of responses not counted were surveys started but not completed by respondents with professional roles while students were more likely to complete the survey once they began. When asked to identify their profession or student status, the majority of participants indicated that they were students ($n = 146$, 71.6%) Of these, the majority were undergraduates ($n = 128$). There were fifty-eight professionals with roles related to media/video that participated in the survey ($n = 58$, 28.4%); professions identified included librarian, library staff, filmmaker, film distributor, and educator. (Table 4.1).

Table 4.1

Role of Survey Participants

Role	Frequency	%
Educator	6	2.9
Film Distributor	6	2.9
Filmmaker	2	1.0
Librarian	40	19.6
Library Staff	4	2.0
First-Year College Student	31	15.2
Sophomore College Student	31	15.2
Junior College Student	36	17.6
Senior College Student	30	14.7
Graduate Student	15	7.4
Other	3	1.5
Total	204	100.0

When asked to identify their gender 202 respondents provided data while two declined to answer (Table 4.2). This question was left open-ended in order to allow respondents to self-identify with any preferred terms. A majority of the respondents identified as female ($n = 125$, 61.5%).

Table 4.2

Gender Identity of Survey Respondents

Gender Identity	Frequency	%
Female	125	61.3
Male	73	35.8
Nonbinary	3	1.5
Transgender	1	0.5
No Response	2	1.0
Total	204	100.0

In response to a question about Hispanic or Latinx heritage over one-fifth of the 204 total participants indicated that they were Hispanic or Latinx ($n = 41$, 20.5%). However, when asked to select terms that best describe their racial identity only a few identified as Hispanic ($n = 7$, 2.9%) (Table 4.3). The majority of participants described themselves as White ($n = 142$, 69.6%), followed by Black or African American ($n = 24$, 11.8%), and then Asian ($n = 12$, 5.9%). There were 8 respondents that identified more than one race (3.9%). Seven respondents chose not to answer this question (3.4%).

Table 4.3

Racial Identity of Survey Respondents

Racial Identity	Frequency	%
American Indian or Alaska Native	1	0.5
American Indian or Alaska Native, White	3	1.5
Asian	12	5.9
Black or African American	1	0.5
Asian, White	2	1.0
Black or African American	24	11.8
Black or African American, White	2	1.0
Hispanic	6	2.9
Mexican	1	0.5
Middle Eastern	1	0.5
White	142	69.6
Other (unspecified)	2	1.0
No Response	7	3.4
Total	204	100.0

Survey Analysis

The remaining questions on the survey were a mix of multiple choice and open-ended questions designed to elicit information about participants' video use. This data was analyzed

using Excel and is displayed graphically or in tables along with written description of the findings. The first part of this analysis looks at frequency distributions to report on how respondents search for and use video.

When asked whether they had viewed a video on a physical format such as a DVD or VHS tape in the previous year most respondents reported having done so ($n = 204$, 149/204, 73%) (Figure 4.1).

Figure 4.1

Physical Format Video Use in the Past Year
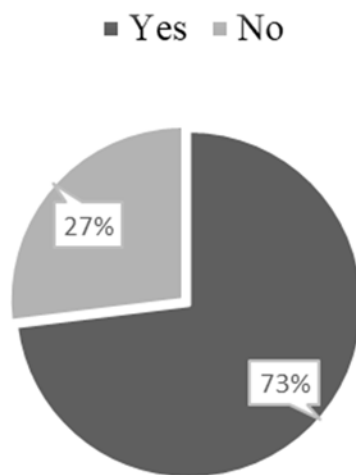
When asked whether they had watched a video online in the past 12 months nearly all of the respondents reported having done so ($n = 201$, 98.5%) (Figure 4.2). All professional respondents reported that they had done so ($n = 58$, 100.0%) and all but 3 students responded that they had watched an online video in the previous year ($n = 143$, 97.9%). However, given the following responses to questions related to frequency of watching online video it seems likely that the 3 students who selected 'never' misunderstood the question. Regardless, it is clear that viewing online video is an activity that most if not all respondents participate in more than viewing video on physical formats.

Figure 4.2

Online Video Use in the Past Year
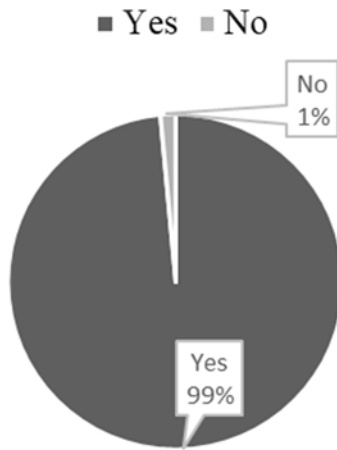
The next four survey questions asked respondents to estimate how many times in the

previous month they had searched for video either on physical formats or online, and how

frequently they watched video either on physical formats or online video. These questions were

open-ended so there were a wide variety of responses. In order to categorize them the responses

were transformed into numerical values from text where necessary and possible ("once a day"

became "30") and then grouped by numerical values. There was a wider variation of responses to

questions about frequency of searching for or viewing online video than there was for the

questions about searching for or viewing video on physical formats. Therefore, the frequency

categories assigned to the frequency of online video searching and viewing are different. In

response to all four questions a few respondents simply replied "many" which is displayed

separately as it is impossible to know what each respondent meant because "many" is quite

subjective.

When asked to estimate how frequently they searched for video on physical formats such

as a DVD or VHS tape in the past month respondents reported a range from never up to 50 times,

with never being the most frequent response (*n* = 93, 45.8%) followed by 1-4 times (*n* = 65, 32.0%) (Table 4.4). Similarly, when asked to estimate how frequently they watch via physical formats in the past month most respondents reported either never (*n* = 75, 36.9%) or 1-4 times (*n* = 79, 38.9%) (Table 4.5). All but one of the survey participants answered these questions (*n* = 203).

Table 4.4

Frequency of Searching for Videos on a Physical Format in the Previous Month

Freq (Prev Month)	# Resp	%
0	93	45.8
1-4	65	32.0
5-10	23	11.3
11-20	11	5.4
More than 20	9	4.4
Many	2	1.0
Total Responses	203	100.0

Table 4.5

Frequency of Watching Videos on a Physical Format in the Previous Month

Freq (Prev Month)	# Resp	%
0	75	36.9
1-4	79	38.9
5-10	31	15.3
11-20	11	5.4
More than 20	5	2.5
Many	2	1.0
Total Responses	203	100.0

Reported use rates of online video were noticeably higher than those reported for physical video. Numerical responses for the questions about frequency of searching for online

video and viewing online video ranged from 1 time per month to "more than 500" and included some non-quantified responses that imply high frequencies of searching and viewing online video such as "many, many, many" and "countless." These non-quantified responses were categorized as "many" in the overall count as it is impossible to know precisely what quantity "many, many, many" or "countless" means to the respondents.

More than half of the responses to the question about frequency of searching for online video were between 1 and 100 ($n = 132$, 68.4%) while 9.8% ($n = 19$) of respondents indicated that they had searched for online video more than 100 times in the previous month (Table 4.6).

Table 4.6

Frequency of Searching for Online Videos in the Previous Month

Freq (Prev Month)	# Resp	%
1-10	25	13.0
11-20	31	16.1
21-50	50	25.9
51-100	26	13.5
More than 100	19	9.8
Many	42	21.8
Total Responses	193	100.0

Similarly, more than half of the respondents indicated that they had watched online videos between 1 and 100 times in the previous month ($n = 135$, 67.5%) while 20.5% ($n = 41$) of respondents reported watching over 100 online videos (Table 4.7). Survey participants reported higher frequencies of watching online video than they reported for watching physical video. Two hundred total participants responded to this question ($n = 200$). Forty-one respondents (20.5%) reported watching online video more than 100 times a month, while 25 (12.5%) reported watching it between 51 and 100 times per month. Fifty-seven (28.5%) respondents report rates of

21-50 times per month, 31 (15.5%) reported rates between 11 and 20 times per month, and 22

respondents (11%) reported watching online video between 1-10 times per month. No

respondents stated that they had not watched online video at all in the last month.

Table 4.7

Frequency of Watching Online Videos in the Previous Month

Freq (Prev Month)	# Resp	%
1-10	22	11.0
11-20	31	15.5
21-50	57	28.5
51-100	25	12.5
More than 100	41	20.5
Many	24	12.0
Total Responses	200	100.0

In order to investigate the frequency of video usage for different purposes the next two

survey questions asked respondents to estimate how often they watch video either in physical

format or online for various reasons. These reasons included entertainment, learning how to do

something new, to fulfill work requirements, to keep up with current events or news, or to

research a topic of interest. There were typically 204 responses to each of these questions for

both physical and online video although a few students missed responding to one so

occasionally.

The first five questions focused on frequency of watching videos on physical formats

such as VHS or DVD. Respondents were asked to select from provided frequencies (daily or

almost daily, a few times a week, at least a couple of times a month, once a month or less, and

never) for each of the following reasons: entertainment, to learn how to do something new, to

fulfill work requirements, to keep up with current events or news, or to research a topic of interest (Table 4.8).

Table 4.8

Frequency of Watching Videos on Physical Formats for Different Reasons

Frequency	For fun or entertain-ment	To learn how to do something new	For work or school	To keep up with current events or news	To research a topic of interest
Never	48 (23.6%)	150 (73.9%)	101 (49.5%)	162 (79.4%)	113 (55.4%)
Once a month or less	70 (34.5%)	35 (17.2%)	52 (25.5%)	18 (8.8%)	47 (23.0%)
At least a couple time a month	44 (21.7%)	11 (5.4%)	36 (17.6%)	12 (5.9%)	24 (11.8%)
A few times a week	26 (12.8%)	2 (1.0%)	11 (5.4%)	6 (2.9%)	13 (6.4%)
Daily or almost daily	15 (7.0%)	5 (2.5%)	4 (2.0%)	6 (2.9%)	7 (3.4%)
Total	203 (100.0%)	203 (100.0%)	204 (100.0%)	204 (100.0%)	204 (100.0%)

Respondents appear to be more likely to watch video on physical formats for fun or entertainment than for any other of the given reasons. When asked how frequently they had watched video on physical formats for fun or entertainment in the previous month the most common response overall was "once a month or less" (n = 70, 34.5%). Forty-four respondents reported watching physical media for fun or entertainment at least a couple of times a month (21.7%) while 26 (12.8%) reported use rates of a few times a week. Only 15 (7%) reported watching physical media videos daily. Nearly a quarter of participants reported never watching physical media for fun or entertainments (48, 23.6%).

When asked to report how frequently they watched video on physical media in the last month in order to learn how to do something new the majority of respondents reported that they

never do this ($n = 150$, 73.9%). Thirty-five respondents (17.2%) reported watching physical media once a month or less (17.2%) while 11 reported rates of at least a couple times a month ($n = 11$, 5.4%). Only two (1.0%) respondents reported watching physical media a to learn how to do something new a few times a week while five (2.5%) reported doing so daily. All but one student responded to this question and all media arts professionals responded ($N = 203$).

When asked to report on frequency of watching video on physical formats for work or school related purposes nearly half of the respondents indicated usage rates of never ($n = 101$, 49.5%). Only four users (2.0%) reported watching physical media daily or almost daily for work or school purposes (two media professionals and two media arts students). Eleven respondents (5.4%) reported watching physical media for work or school a few times a week, 36 (17.6%) reported doing so at least a couple of times a month, and 52 (25.5%) reported rates of once a month or less.

When asked about watching videos on physical formats in order to keep up with current events or news all survey participants responded ($N = 204$). Only six participants (2.9%) reported watching physical media to keep up with current events on a daily or almost daily basis. Another six respondents (2.9%) reported that they watch physical media for this purpose a few times a week, 12 (5.9%) do so a couple of times a month, and 18 (8.8%) once a month or less. The majority of respondents in both categories reported never watching physical media for current events and news ($n = 162$, 79.4%). Respondents were less likely to watch physical media to keep up with current events than for any of the other reasons.

The final question related to frequency of viewing video on physical media asked respondents how often they watch physical media in order to research topics of interest. All survey participants responded to this question ($n = 204$). The majority of respondents again

reported that they never viewed physical media to research something new (n = 113, 55.4%).

Forty-seven (23.0%) reported doing so once a month or less, 24 (11.8%) at least a couple of times a month, and 13 (6.4%) reported rates of a few times a week. Only 7 participants (3.4%) reported watching physical media to research topics of interest daily or almost daily.

After survey participants answered the questions focused on frequency of use of physical media for various reasons, they answered the same questions but focused on watching online video rather than physical (Table 4.9). Respondents were again asked to select from provided frequencies (daily or almost daily, a few times a week, at least a couple of times a month, once a month or less, and never) for each of the following reasons: entertainment, to learn how to do something new, to fulfill work requirements, to keep up with current events or news, or to research a topic of interest.

Table 4.9

Frequency of Watching Online Videos for Different Reasons

Frequency	For fun or entertain-ment	To learn how to do something new	For work or school	To keep up with current events or news	To research a topic of interest
Never	1 (0.5%)	4 (2.0%)	10 (4.9%)	5 (2.5%)	5 (2.5%)
Once a month or less	1 (0.5%)	24 (11.8%)	29 (14.3%)	25 (12.3%)	20 (9.9%)
At least a couple time a month	12 (5.9%)	54 (26.6%)	63 (31.0%)	40 (19.7%)	31 (15.3%)
A few times a week	40 (19.6%)	57 (28.1%)	63 (31.0%)	55 (27.1%)	58 (28.6%)
Daily or almost daily	150 (73.5%)	64 (31.5%)	38 (18.7%)	78 (38.4%)	89 (42.8%)
Total	204 (100.0%)	203 (100.0%)	203 (100.0%)	203 (100.0%)	203 (100.0%)

All participants responded to the first question regarding watching online video for fun or entertainment ($N = 204$). The most common response was daily or almost daily ($n = 150$, 73.5%). Forty participants (19.6%) reported a frequency of a few times a week, 12 (5.9%) reported doing so at least a couple of times a month, while only one user (0.5%) reported watching online video once a month or less with another one (0.5%) reporting that they never watched online video for fun or entertainment.

The next question asked survey participants to select a frequency for their rate of watching online video in order to learn how to do something new; 203 responses were received for this question. Sixty-four participants reported watching online video to learn something new daily or almost daily ($n = 64$, 31.5%), 57 (28.1%) reported doing so a few times a week, 54 (26.6%) reported doing so at least a couple of times a month, 24 (11.8%) reported doing so once a month or less, and four (2.0%) reported that they never watched online video in order to learn how to do something new.

The next question asked survey participants to select a frequency for how many times they had watched online video for work or school in the last month. All but one participant responded to this question ($n = 203$). Thirty-eight respondents (18.7%) indicated that they watched online video for work or school daily or almost daily in the last month, 63 (31.0%) reported doing so a few times a week and another 63 (31.0%) reported doing so at least a couple of times a month. Twenty-nine respondents (14.3%) indicated watching online video for work or school once a month or less while 10 of them (4.9%) indicated not doing so at all.

The next question asked respondents to estimate the frequency with which they had watched online video in the last month in order to keep up with current events or news. All respondents with the exception of one media arts student answered this question ($N = 203$). The

most common response was daily ($n = 78$, 38.4%), followed by a few times a week ($n = 55$, 27.1%), and then at least a couple of times a month ($n = 40$, 19.7%). Twenty-five survey participants (12.3%) responded that they watch online video to keep up with current events or news once a month or less and 5 (2.5%) that they never do so.

The final question related to frequency of online video viewing for specific purposes and asked survey participants to estimate how often they watched online video in order to research a topic of personal interest. All participants answered this question other than one student ($N = 203$). The most common response was daily or almost daily ($n = 89$, 43.8%). Fifty-eight respondents (28.6%) reported that they had watched online video in order to research a topic of interest a few times a week in the previous month, 31 (15.3%) had done so at least a couple of times, 20 (9.9%) had done so once a month or less, and 5 (2.5%) reported not having watched online video for that purpose at all.

The next few survey questions aimed to gather information on participants' online video search behavior and the platforms they use for this purpose. Participants were first asked to identify all of the platforms that they use to search for online video. Respondents were provided a list of common platforms to select from, allowed to choose as many as applicable, and also given the option to write in platforms not given as an option.

As can be seen in Table 4.10, the majority of respondents ($n = 194$, 94.6%) use YouTube to search for online video. They are also likely to use subscription resources such as Hulu, Netflix, or Amazon Prime, Google ($n = 164$, 80.8%), and social media ($n = 146$, 71.9%), online video platforms other than YouTube ($n = 85$, 41.9%) to search for online video. Many respondents use library or academic resources to search for online video ($n = 83$, 40.9%). Respondents were less likely to use a search engine other than Google ($n = 24$, 11.8%), catalogs

or magazines (*n* = 15, 7.4%), or email listservs (*n* = 15, 7.4%). Fourteen respondents indicated

that they use resources other than those listed. These resources include conference archives,

websites of specific companies for product information, websites of specific media producers,

two cross-platform video sites (JustWatch and ReelGood), and the Internet Movie Database

(www.imdb.com).

Table 4.10

*Tools Used to Search for Online Video (*N = 203*)*

Used to Search for Online Video	Frequency	%
YouTube	192	94.6
Subscription resources	180	88.7
Google search engine	164	80.8
Social media	146	71.9
Online video platforms other than YouTube	85	41.9
Library or academic resources	83	40.9
Search engine other than Google	24	11.8
Catalogs or magazines	15	7.4
Email Listservs	15	7.4
Other (please specify)	14	6.9

Participants were then provided the same choices and asked to select only the resource

that they use *most* to search for online video. The data gathered from participants' responses to

this question can be used to gain insights into the most popular online video platforms for

informational video. As each option other than YouTube was a category rather than a specific

resource, respondents were also asked to specify the exact resource within each selection. The

inclusion of the option to specify the exact resource within each selection adds nuance to the data

and provides more detailed information about participants' online video search behavior. All

participants other than one student responded to this question (*N* = 203).

As seen in Table 4.11 the majority of respondents ($n = 105$, 51.7%) use YouTube more than any other source to search for online video. Slightly over a third of respondents use subscription resources such as Hulu, Netflix or Amazon Prime ($n = 62$, 30.5%). Sixteen respondents (7.9%) use a search engine, including Google and DuckDuckGo and eight (3.9%) rely most on social media (Twitter). Six respondents (3.0%) rely most on library or academic resources (WorldCat, Access Video on Demand, Kanopy, and the library catalog). The remaining responses included other ($n = 3$, 1.5%), specifically JustWatch, ReelGood, and cable on demand; online video platforms other than YouTube ($n = 2$, 1.0%), specifically Adobe Education Exchange and Twitch; and catalogs or magazines ($n = 1$, 0.5%), a publication called *Video Librarian.*

Table 4.11

Tools Used Most to Search for Online Video

Most Used to Search for Online Video	Frequency	%
YouTube	105	51.7
Subscription resources	62	30.5
Search engine	16	7.9
Social media	8	3.9
Library or academic resources	6	3.0
Online video platforms other than YouTube	2	1.0
Other	3	1.5
Catalogs or magazines	1	0.5
Total	203	100.0

Survey participants were asked to rank the difficulty of finding online video for various purposes (Table 4.12). Most survey participants ($N = 202$) responded to these questions. Results indicate that the majority of respondents do not think that finding online video for any of the given reasons (fun or entertainment, to learn to do something new, to watch for school or work,

to keep up with current events or news, or to research topics of interest) difficult.

Table 4.12

Difficulty of Finding Online Video for Different Reasons

	For fun or entertainment is difficult	To learn to do something new is difficult	To watch for school or work is difficult	To keep up with current events or news is difficult	To research topics of interest is difficult
Strongly disagree	136 (67.3%)	117 (57.9%)	65 (32.2%)	127 (62.9%)	107 (53.0%)
Somewhat disagree	41 (20.3%)	61 (30.2%)	72 (35.6%)	55 (27.2%)	58 (28.7%)
Neither agree nor disagree	12 (5.9%)	15 (7.4%)	37 (18.3%)	8 (4.0%)	16 (7.9%)
Somewhat agree	11 (5.4%)	6 (3.0%)	21 (10.4%)	8 (4.0%)	14 (6.9%)
Strongly agree	2 (1.0%)	2 (1.0%)	1 (0.5%)	1 (0.5%)	4 (2.0%)
Not applicable	0 (0.0%)	1 (0.5%)	6 (3.0%)	3 (1.5%)	3 (1.5%)
Total	202 (100.0%)	202 (100.0%)	202 (100.0%)	202 (100.0%)	202 (100.0%)

Figure 4.3

Finding Online Video is Reportedly Not Difficult (N = 202)
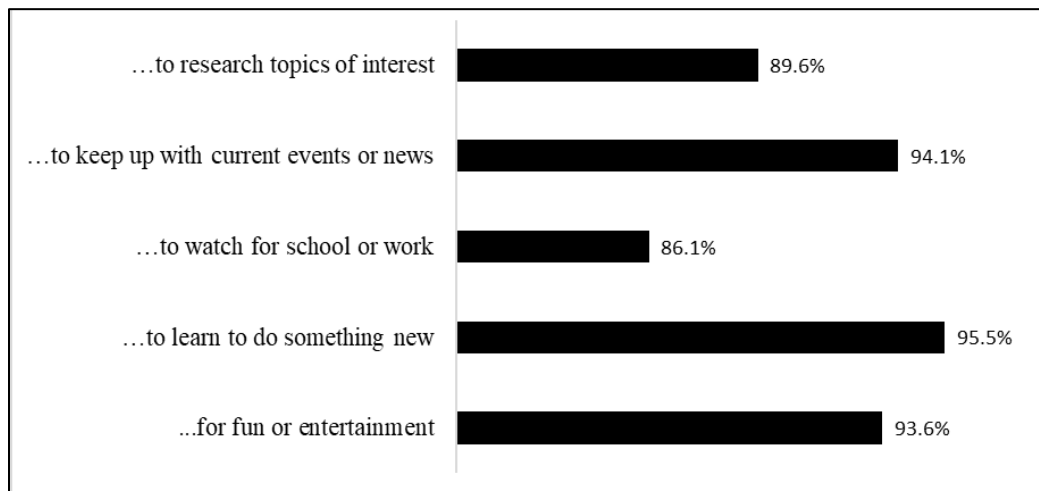
These results suggest that survey participants generally find it easy to locate online video content for a variety of purposes. Another way to look at it is to view responses that either strongly or somewhat disagree that finding online video for these reasons as difficult as being responses that would consider it easy to find online video (Figure 4.3).

The majority of respondents strongly disagreed that finding video for fun or entertainment is difficult ($n = 136$, 67.3%) while 41 (20.3%) somewhat disagreed and 12 (5.9%) neither agreed nor disagreed. Eleven participants (5.4%) somewhat agree that finding online video for fun or entertainment is difficult and 2 (1.0%) strongly agreed. A majority of respondents ($n = 117$, 57.9%) strongly disagreed that finding online video in order to do something new is difficult, 61 (30.2%) somewhat disagreed, 15 neither agreed nor disagreed, 6 somewhat agreed, and 2 (1.0%) strongly agreed. A smaller number of respondents strongly disagreed ($n = 65$, 32.2%) or somewhat disagreed (72, 35.6%) that finding online video to watch for school or work is difficult, while 37 (18.3%) neither agreed nor disagreed, 21 (10.4%) somewhat agreed that doing so is difficult and 1 (0.5%) strongly agreed.

When asked to rate the difficulty of finding online video to keep up with current events or news 127 (62.9%) participants strongly disagreed that doing so is difficult and 55 (27.2%) somewhat disagreed. Eight participants (4.0%) neither agreed nor disagreed that finding online video to keep up with current events or news is difficult while eight (4.0%) somewhat agreed that it is difficult and one (0.5%) strongly agreed. Finally, participants were asked to rate the difficulty of finding online video in order to research topics of interest. The majority of participants ($n = 107$, 53%) strongly disagreed that finding online video to research topics of interest was difficult, 58 (28.7%) somewhat disagreed, 16 (7.9%) neither agreed nor disagreed. Fourteen participants (6.9%) somewhat agreed and 4 (2.0%) strongly agreed that finding online

video to research topics of interest was difficult.

The remaining four closed-ended survey questions asked participants to identify criteria that help them decide whether to watch an online video for various reasons (fun or entertainment, to learn how to do something new, to keep up with current events or news, or in order to learn about or research a topic that is interesting. Participants identified relevance criteria by selecting them from a list of 22 criteria that were adapted from previous studies of relevance judgments (Schamber, 1991; Yang, 2005; Albassam & Ruthven, 2018). These questions were included to get preliminary insight into the relevance criteria that would be explored more fully during the next phase of the study and to possibly guide the structure of the interviews during that phase.

Table 4.13

*Relevance Criteria for Online Video Used for Fun or Entertainment (*N = 204)

Relevance Criteria Selected (up to 5)	Frequency	%
What the video is about	146	71.6
The quality of the visual content	108	52.9
How much it costs to view the video	85	41.7
How long the video is	79	38.7
Suggestions from family, friends, coworkers, acquaintances	78	38.2
Knowing the identity and quality of the director	70	34.3
The quality of the audio content	67	32.8
How familiar you are with the people shown in the video	63	30.9
User reviews or ratings	63	30.9
The appearance of the website the video is on	58	28.4
How recent the video is	44	21.6
The appearance of the video player	38	18.6
How accurate the information in the video appears to be	35	17.2
Reviews published on other websites	25	12.3
What language the video was recorded in	18	8.8
Knowing the identity and quality of the screenwriter	17	8.3

(table continues)

Relevance Criteria Selected (up to 5)	Frequency	%
Whether or not the video has closed captions	17	8.3
Scrubbing through the video	12	5.9
Reviews published in newspapers or magazines	11	5.4
Where the video was filmed	6	2.9
Reading or skimming the transcript	5	2.5
Other	4	2.0
Whether or not the video is copyrighted	2	1.0
No response	6	2.9

The first question in this section asked participants which five criteria they were most likely to use in order to select a video to watch for fun or entertainment (Table 4.13). The three most common responses were what the video is about ($n = 146$, 73.7%), the quality of the visual content ($n = 108$, 54.5%), how much it costs to view the video ($n = 85$, 42.9%). Participants were least likely to be concerned about the copyright of the video ($n = 2$, 1.0%) and few of them read or skimmed the transcript in order to decide ($n = 4$, 2.0%) or considered where the video was filmed ($n = 5$, 2.5%). Four participants gave reasons other than those listed including whether the video is already known to them, whether the video is available through social media channels, whether the video is available on a physical format, and knowing the genre of the film). Six respondents elected not to answer.

Survey participants were then asked to identify the five criteria they were most likely to use in order to find an online video in order to learn a new skill such as cooking, styling a paper, or building something (Table 4.14). The three most common responses were what the video is about ($n = 105$, 52.5%), the quality of the visual content ($n = 104$, 52.0%), and how accurate the information in the video appears to be ($n = 99$, 49.5%). Participants were least likely to rely on where the video was filmed ($n = 3$, 1.5%), the copyright status of the video ($n = 4$, 2.0%) or to refer to reviews published in newspapers or magazines ($n = 5$, 2.5%). Four participants gave

reasons other than those listed including the source of the video ($n = 2$), which platform the video is on, and the "talent of the person in the video." Four respondents elected not to answer.

Table 4.14

Relevance Criteria for Online Video Used for Learning a New Skill (N = 204)

Relevance Criteria Selected (up to 5)	Frequency	%
What the video is about	105	51.5
The quality of the visual content	104	51.0
How accurate the information in the video appears to be	99	48.5
How recent the video is	88	43.1
User reviews or ratings	75	36.8
How long the video is	67	32.8
The quality of the audio content	61	29.9
How much it costs to view the video	50	24.5
The appearance of the website the video is on	43	21.1
Scrubbing through the video	32	15.7
Suggestions from family, friends, coworkers, acquaintances	28	13.7
What language the video was recorded in	25	12.3
The appearance of the video player	24	11.8
Knowing the identity and quality of the director	21	10.3
How familiar you are with the people shown in the video	21	10.3
Whether or not the video has closed captions	17	8.3
Knowing the identity and quality of the screenwriter	10	4.9
Reviews published on other websites	10	4.9
Reading or skimming the transcript	8	3.9
Reviews published in newspapers or magazines	5	2.5
Whether or not the video is copyrighted	4	2.0
Other	4	2.0
Where the video was filmed	3	1.5
No response	4	2.0

Survey participants were then asked to identify the five criteria they were most likely to use in order to find an online video about something on the news or a current event (Table 4.15).

The three most common responses to this question were how recent the video is ($n = 124$, 62.9%), how accurate the information in the video appears to be ($n = 116$, 58.9%), and what the video is about ($n = 88$, 44.7%). Participants were least likely to rely on whether the video is copyrighted ($n = 4$, 2.0%), scrubbing through the video ($n = 7$, 3.6%), or where the video was filmed ($n = 7$, 3.6%). Seven participants selected 'other' and stated that the source of the video was one of the top five criteria they rely on for selecting an online video about news or a current event.

Table 4.15

Relevance Criteria for Online Video Used for News or Current Events (N = 204)

Relevance Criteria Selected (up to 5)	Frequency	%
How recent the video is	124	60.8
How accurate the information in the video appears to be	116	56.9
What the video is about	88	43.1
The quality of the visual content	58	28.4
The quality of the audio content	51	25.0
The appearance of the website the video is on	47	23.0
How familiar you are with the people shown in the video	42	20.6
How long the video is	40	19.6
Knowing the identity and quality of the director before	36	17.6
User reviews or ratings	34	16.7
How much it costs to view the video	32	15.7
The appearance of the video player	31	15.2
Suggestions from family, friends, coworkers, acquaintances	31	15.2
Knowing the identity and quality of the screenwriter	26	12.7
Reading or skimming the transcript	17	8.3
What language the video was recorded in	14	6.9
Reviews published on other websites	13	6.4
Reviews published in newspapers or magazines	13	6.4
Whether or not the video has closed captions	9	4.4

(table continues)

Relevance Criteria Selected (up to 5)	Frequency	%
Where the video was filmed	7	3.4
Scrubbing through the video	7	3.4
Other	7	3.4
Whether or not the video is copyrighted	4	2.0
No response	7	3.4

Finally, survey participants were asked to identify the five criteria they were most likely to use in order to learn about or research a topic that is interesting to you (Table 4.16). The three most common responses to this question were how accurate the information appears to be ($n = 104$, 52.3%), what the video is about ($n = 103$, 51.8%), and the quality of the visual content ($n = 96$, 48.2%). The least selected criteria were where the video was filmed ($n = 2$, 1.0%), whether the video is copyrighted ($n = 6$, 5.0%), and whether the video has closed captions ($n = 10$, 5.0%). Five participants gave reasons other than the provided criteria including the source of the video ($n = 3$), the distributor of the video ($n = 1$), and whether the person in the video is "credible and legit" ($n = 1$),.Five participants elected not to answer.

Table 4.16

Relevance Criteria for Online Video Used to Research a Topic of Interest (N = 204)

Relevance Criteria Selected (up to 5)	Frequency	%
How accurate the information in the video appears to be	104	51.0
What the video is about	103	50.5
The quality of the visual content	96	47.1
How recent the video is	83	40.7
The quality of the audio content	66	32.4
User reviews or ratings	51	25.0
How much it costs to view the video	48	23.5
How long the video is	46	22.5
The appearance of the website the video is on	36	17.6

(table continues)

Relevance Criteria Selected (up to 5)	Frequency	%
Knowing the identity and quality of the director	35	17.2
The appearance of the video player	32	15.7
How familiar you are with the people shown in the video	27	13.2
Suggestions from family, friends, coworkers, acquaintances	27	13.2
Knowing the identity and quality of the screenwriter	21	10.3
Reviews published on other websites	20	9.8
What language the video was recorded in	17	8.3
Reviews published in newspapers or magazines	13	6.4
Reading or skimming the transcript	13	6.4
Scrubbing through the video	13	6.4
Whether or not the video has closed captions	10	4.9
Whether or not the video is copyrighted	6	2.9
Other	5	2.5
Where the video was filmed	2	1.0
No response	5	2.5

The final three questions in the survey were open-ended questions focused on watching an online video or searching for an online video for information. These open-ended questions provide qualitative data about participants' experiences with online video usage that cannot be captured through closed-ended survey questions alone and gave participants a chance to provide input in their own words. Participants answered the questions with a few words or a brief sentence at most. From the responses themes became quickly apparent and easily identifiable, so the responses were categorized to provide a summary. The categorization of responses allowed for a more structured analysis of this qualitative data and can provide insight into user behavior and preferences.

The first open-ended question asked participants to think about the last time they watched a video to learn something new. There were three parts to this question which asked what the video was, where they found it, and how they decided to watch it. Each part was categorized and

analyzed separately. There were 197 total responses submitted for this question, but 16 respondents (one professional and 14 students) did not answer sufficiently to be included in the analysis, so the total number of responses reported is 182 (*N* = 182). In categorizing the responses to the first part of this question ("what was the video?") it became apparent that there were a few common reasons for seeking a video to fill an information need including cooking, car or home repairs, crafts or hobbies, and technology or software. Responses by category are seen in Table 4.17.

Table 4.17

*Topics of Online Videos Most Recently Watched by Respondents (*N = *182)*

Topic of Recent Informational Video	Frequency	%
Craft/hobby	45	24.7
Technology	36	19.8
Cooking	24	13.2
General interest	22	12.1
Home or car repair	16	8.8
Self-care/beauty	13	7.1
News/current events	10	5.5
How to (general)	8	4.4
Language	3	1.6
Unspecified	5	2.7
Total	182	100.0

The most frequently mentioned reason for watching an online video for information related to hobbies or crafts such as watching or playing sports, sewing, knitting, or embroidering, creating art, playing musical instruments, or playing video or board games (*n* = 45). One of these participants stated that they wanted a video "on how to play squash" and another wanted a video on "a painting technique." Others wanted to learn "how to embroider," "soap carving," and

"bullet journaling." Forty-five participants (24.7%) gave responses to this question that fit into the hobbies or crafts category.

Thirty-six participants (19.8%) responded that they had most recently looked for an online video in order to learn something about software or technology. These responses could be further divided into two categories–device ($n = 10$) and software ($n = 26$). A device-related response in the technology category is one referring to some type of hardware or tech-based item such as a phone, video game console or microphone. One participant needed to learn how to "work a LAV mic" while another stated that their "Chromebook wouldn't turn on, so I looked up on my phone how to restart it." A software-related response in the technology category is one referring to using specific programs on a computer or other technological device such as functionalities in Microsoft Word or Microsoft Excel. One participant was looking for a video to learn "how to fade audio in Adobe Premier" while another wanted to "delete a page from a Word document."

The next most frequently given reason for seeking a video to fill an information need related to learning how to prepare food or drinks ('cooking,' $n = 24$, 13.2%).Participant statements in this category varied from somewhat detailed ("learn how to cook tofu without needing to know anything about it") to vague ("a cooking video on YouTube") but all were clearly related to learning about how to prepare food or drinks. Twenty-two participants gave reasons for needing an online video related to wanting to learn something about general interests that did not fall into any of the other categories ('general interest,' $n = 22$, 12.1%). Reasons given included personal interests such as "researching vacation" as one participant stated or, as another said, "an interview of Nikki Minaj…because she was trending at the moment." Other reasons in this category included "male/female relationships in middle eastern cultures," "the

status of Sbarro the pizza company," and "a video about a Hindu Goddess." Some of these interests might have been information needs related to work or school requirements but none of the participants stated as such so they were all categorized as 'general interest.'

Sixteen participants gave reasons related to home or car repair to describe the online video they had most recently watched for informational purposes ('home or car repair,' $n = 16$, 8.8%). Specific repairs included needing to "fix the air conditioner in my car" and "trying to learn how to fix my toilet without having to call maintenance." Thirteen participants cited reasons related to seeking information about health or beauty related topics ('self-care/beauty,' $n = 13$, 7.1%) such as "braiding hair" or "how to go to sleep." Ten participants gave reasons related to information about things in the news or current events ('news/current events,' $n = 10$, 5.5%) such as researching "hate speech on college campuses" or "information about the democratic debate." Eight participants gave reasons that fell into a general category for how to do things that did not fall into the other categories ('how-to (general),' $n = 8$, 4.4%). These included such specific reasons as filing taxes, using a can opener, and "suggestions to choose a major [in college]." The final category of purposes were three participants who were looking for videos to help them learn how to speak or write in a specific language such as "a pronunciation video for French" ('language,' $n = 3$, 1.6%). There were five responses that were so vague that they were simply categorized as 'unspecified' ($n = 5$). This category included responses such as "a lecture video," "can't recall exactly the video," and "I picked it based on how relevant the topic was."

The next part of the question concerned with the most recent video watched for informational purposes asked participants where they found the video. Responses were grouped and findings can be seen in Table 4.18. The majority of respondents named YouTube as the

source for the most recent video they watched in order to learn something new ($n = 137, 75.7\%$). The remainder of the responses varied and included: a company's website ($n = 4, 2.2\%$), LinkedIn Learning ($n = 4, 2.2\%$), Pinterest ($n = 2, 1.1\%$), Lynda.com ($n = 2, 1.1\%$), a library's website ($n = 2, 1.1\%$), LinkedIn Learning ($n = 2, 1.1\%$), a conference website ($n = 1, 0.5\%$), Amazon Prime ($n = 1, 0.5\%$), Canvas ($n = 1, 0.5\%$), and the New York Times website ($n = 1, 0.5\%$). Lynda.com is now officially known as LinkedIn Learning so these responses were combined in the summary table.

Table 4.18

Where Respondents Most Recently Found Videos to Learn Something New (N = 182)

Platform	Frequency	%
YouTube	137	75.3
Company website	4	2.2
LinkedIn learning	4	2.2
Library website	2	1.1
Pinterest	2	1.1
Conference archive website	1	0.5
Amazon prime	1	0.5
Canvas	1	0.5
New York Times	1	0.5
Facebook	1	0.5
Twitter	1	0.5
Unspecified	27	14.8
Total	182	100.0

Some respondents answered the question as if it read "how did you find it?" rather than where. For example, "searched on Google to find it" or "searched on DuckDuckGo on my computer." It is unclear if respondents did not understand the question or if searching for information online creates a correlation between the process of finding information and the

source of the information of which information users may not be cognizant. These responses are coded as "unspecified."

The third segment of the first open-ended question asked respondents how they decided on the video they had most recently watched in order to learn something new; 104 respondents gave answers that pertained to this part of the question ($n = 104$). These were inductively coded through three stages of qualitative coding in Excel in order to elicit meaning and intention from the language of the respondents before categorizing for clarity (Appendix D). Of the three parts to this question, these responses were the most complex with a wider range of terminology and more in-depth description provided by participants. Many responses included more than one reason for selecting the video; 35 respondents included more than 1 reason for deciding to watch the video, 5 respondents included more than 2 reasons. All were coded with equal weight (i.e., no preference given to the first reason mentioned). The 19 categories of criteria can be seen in Table 4.19.

Table 4.19

*Criteria Participants Reported Employing When They Most Recently Decided to Watch Video to Learn Something New (*N = *104)*

Reason for Selecting a Video	Frequency	%
Creator	25	24.0
Popularity	24	23.1
Length	15	14.4
Topical relevance	12	11.5
Content quality	10	9.6
Recommendation	9	8.7
Search result (top)	9	8.7
Presentation quality	9	8.7
Video quality	5	4.8

(table continues)

73

Reason for Selecting a Video	Frequency	%
Publisher	5	4.8
Descriptive text	5	4.8
Comments	3	2.9
Recency	3	2.9
Quality (unspecified)	3	2.9
Audio quality	2	1.9
Availability	2	1.9
Awards	2	1.9
Accuracy	1	1.0
Player functionality	1	1.0

The most commonly given reasons for selecting a video became quickly apparent through the coding process. Twenty-five participants stated that they chose the video they had most recently watched in order to learn something new based on the creator being either known to them or being authoritative ($n = 25$). Some participants explicitly stated that they selected a video because it was created by an individual or group of individuals known to them or whose content was familiar to them. For example, one participant stated that they chose a video because it was "from a girl who has made other good videos before" while another simply stated that they chose the video because "it was by my professor." Others judged an unknown creator and found them to be reputable, as in the example of one participant who state that a "mechanic seemed authoritative. He actually turned out to be."

The next most commonly given reason for selecting a video was popularity ($n = 24$). Almost one-fourth of the respondents stated that they chose a video to learn learn something based on reasons such as "high rating and views." One participant stated that the number of "views it had persuaded me to watch it" while another selected a video because of the "number of views and comments." It is evident that the apparent popularity of online video is not

dependent on just one factor but may be because of ratings, rankings, or the number of previous interactions (views, comments) with the video.

Fifteen participants selected a video because its length fit the timespan they were looking for ('length,' $n = 15$). For example, one respondent chose a video because "it was short" while another chose a video because it "was long so I thought that it would have a lot of detail." Twelve respondents chose videos because they judged the topic covered in the video to fulfill their information need ('topical relevance,' $n = 12$). Statements related to topical relevance ranged from simple and direct ("met my topic requirements") to specific ("she had my hair texture") as reason given for selecting a video to learn how to create a hairstyle). Ten respondents selected a video based on criteria related to the quality of the content ('content quality,' $n = 10$). Many of these responses were succinct such as one respondent who stated that they chose a video "based on content" and another who stated that the video appeared to have "high quality content." Others stated that they chose their video for more specific content such as "the food looked good" or the hairstyle in the video "looked really nice."

The remaining 14 criteria categories were named by fewer than ten participants. Nine chose a video based on recommendations from friends, colleagues, or others ('recommendations,' $n = 9$); how high the video was in a search results list ('search result (top),' $n = 9$), or how well information was presented in the video ('presentation quality,' $n = 9$). Five named the quality of the video ('video quality,' $n = 5$), the entity responsible for publishing the video ('publisher,' $n = 5$), or the captions, title or keywords related to the video ('descriptive text,' $n = 5$). Three participants used reviews or comments in order to select a view ('reviews,' $n = 3$), assessed the recency of the video ('recency,' $n = 3$), or cited the general quality of a video without specification ('quality,' $n = 3$). Remaining criteria can be seen with frequencies of each

in Table 4.19. These included the quality of the audio, the availability of a video (whether it was paywalled), what awards the video had received, whether the information in the video was accurate, and features of the video player (e.g., whether the player supported scrubbing).

The next item on the survey asked participants if they could choose to learn about a topic by either reading or watching a video which they would choose and why. Fifteen participants were removed from the analysis for not answering the question; 184 responses were counted for this question. Responses to the first part of the question were categorized following the same coding procedures used for the first open-ended question. Because the responses tended to be clearer and more succinct it was easy to elicit which information format respondents preferred (Table 4.20). Although this question is not central to this study it does offer interesting insight into information behavior that provides potential subject areas for future research.

Table 4.20

Preferred Format for Learning about a Topic

Preferred Information Format	Frequency	%
Video	127	69.0
Depends on the Information Need or other Factors	32	17.4
Reading	16	8.7
Both	9	4.9
Total	184	100.0

The majority of respondents indicated that they preferred watching video to learn about a topic ($n = 127$, 69%). Reasons given for this choice include learning "better visually," because video is "much easier and more visual," and because "I do better with demonstration." Participants also stated that they find video "more convenient" than reading or that watching a video "takes less time" or "requires less effort" than reading. Quite a few participants self-identified as "visual learners" as a way of explaining why they choose video over reading to

learn about something new. Participants also noted a difference in how tone or feeling is communicated through video. One participant said that they choose video because "you can hear the emotion" while another stated that they find video "more candid." Finally, some participants choose video because they find it to be more assistive for issues such as ADHD or dyslexia, or simply because it "seems like a break."

Thirty-two participants reported that whether they choose reading or video to learn about a topic depends on the circumstances or the information need ($n = 32$, 17.4%). One stated that they use "video for creative things, reading for administrative/professional purposes" while another stated that "reading is usually faster, but some things are easier to learn visually." The choice also might be determined by available sources of information as one participant stated which format they use "depends on the topic and the number/quality of videos available." Only sixteen participants reported preferring reading to video for learning ($n = 16$, 8.7%). Reasons included time concerns such as choosing to read because "reading is faster" or because "it is easier to go at my own pace." One participant avoids learning from video because supportive technology is not widely available as "not all videos have closed captioning and I don't like headphones, so reading is easier." Nine participants prefer to use both reading and video when learning about a topic and seek to incorporate multiple information formats when seeking information ($n = 9$, 4.9%).

The final open-ended survey question asked participants to think about the last time they searched for an online video in order to learn about something and to describe what, if any, difficulties they experienced during that process. Seventeen responses were removed for analysis for not answering the question ($N = 187$). Twenty-nine participants named more than one difficulty. Responses were categorized following the same procedure applied to the other open-

ended questions. Categories and the number of responses within each category are in Table 4.21.

Table 4.21

Difficulties Encountered Finding Online Video for Informational Purposes (N = 187)

Difficulties Reported	Frequency	%
Discoverability	50	26.7
None	37	19.8
Topicality	36	19.3
Information quality	28	15.0
Video quality	25	13.4
Length	11	5.9
Paywall	7	3.7
Technical	5	2.7
Recency	6	3.2
Advertisements	3	1.6
Personal disconnect	3	1.6
Time consuming	2	1.1

The most common reason participants encountered challenges when searching for an online video for informational reasons related to issues within the discovery process ('discoverability,' $n = 50$). Because these reasons tended to be complex, they were further analyzed to identify specific issues within the discovery process. Twenty-five of these were general discovery issues such as "difficult to locate a video on precisely the topic I'm interested in" or the participant thought they had found a video but then realized "it wasn't what I was looking for." Thirteen participants struggled with the vast number of results returned with a search. One stated that "the only difficulty is sorting through the wide number of instructional videos to find one" and another said that "there are so many options that it's sometimes hard to find the right one." Six participants noted that metadata assigned to videos made it difficult to find one, finding that "poor descriptions" or "subject headings" were unhelpful. Other

participants struggled with this process because the results from their searches were not "correct" or because the process of finding the video they wanted was generally just too time consuming. One participant made the distinction between struggling to discover a video and struggling to discover information within a video noting that they have trouble "trying to find something within a specific video, for example I was looking for a news video that had a news package in it and it's hard to research for that."

Another common issue related to being unable to find videos on the topic of interest ('topicality,' $n = 36$). This is different from reported issues with finding videos on a certain topic (coded as discoverability) - 'topicality' was applied when relevant videos were discovered but were found to be lacking depth or specificity required for the topic of interest. One participant noted that the "availability of the exact topic" presented a problem, and another found a video but noted that the topic covered "wasn't exactly what I was looking for." Another issue related to the reliability, authority, or accuracy of the information within an online video ('information quality,' $n = 28$). Participants reporting issues in this category stated that finding a "nonbiased source or video is the most difficult part" and that even if a video presents relevant information it "can be difficult to really determine a video maker's knowledge of the subject or the accuracy of the information presented."

Other issues included the quality of relevant videos being poor, including issues with audio or visual content or the method and style of the presentation ('video quality,' $n = 25$) or the length of the videos ('length,' $n = 11$). Struggling to find videos that are available is another issue as participants reported issues finding videos that are not hidden behind a paywall or only available via a subscription to a specific platform ('paywall,' $n = 7$). Technical issues ('technical,' $n = 5$), being able to find recent video ('recency,' $n = 6$, encountering a prohibitive

amount of advertising within videos ('advertisements,' $n = 3$), and general time constraints ('time consuming,' $n = 2$) were other mentioned issues and three participants stated that the problem they faced was taking apparently relevant information and making it useful either because they "get distracted" or because "taking the information and making it useful" was difficult ('personal disconnect,' $n = 3$). Thirty-seven participants reported that they experienced no difficulty finding online video for information ('none,' $n = 37$).

<div align="center">Interview Results</div>

This section contains the summarized results from the interview portion of the study. Ten participants who work with video in various professional capacities participated in the interviews. Eight of the participants completed the quantitative survey to participate in the interviews, and two were recruited via VideoLib (a listserv used by professionals working in with film and video related to libraries or library organizations). A summary of the interviews and participants is in Table 4.22. Interviews were conducted and recorded via Zoom over two weeks in November 2022. Each interview lasted between approximately 42 and 72 minutes. Transcripts were generated from the interviews and used in the analysis although the recorded videos were used for additional context as needed.

Table 4.22

Interview and Participant Summary

	Length	Date of Survey	Gender	Professional Affiliation
Participant 1	52:11	10/24/2022	F	Librarian
Participant 2	48:30	10/25/2022	F	Librarian
Participant 3	45:57	10/25/2022	F	Librarian
Participant 4	42:57	10/21/2022 & 11/17/22	F	Librarian
Participant 5	44:15	10/26/2022	M	Film Distributor

(table continues)

	Length	Date of Survey	Gender	Professional Affiliation
Participant 6	72:29	10/21/2022	M	Film Distributor
Participant 7	51:18	10/26/2022	F	Educator
Participant 8	70:27	10/24/2022	F	Librarian
Participant 9	45:57	10/21/2022	F	Librarian
Participant 10	58:20	10/25/2022	M	Media Nonprofit

Each interview consisted of three sections of questions (Appendix C). In the first section participants were asked five open-ended questions designed to elicit background information about their use of online video for professional and informational reasons. In the next section, each participant completed two searches for online video to fulfill an informational need while thinking aloud. These searches were mostly unguided and followed by five questions related to the searches that were designed to collect more information about how relevance judgments were made during the searches. The transcripts from this section were coded to identify patterns of relevance criteria applied as part of the information seeking process. The last section of the interview consisted of 24 questions about specific relevance criteria identified in related studies. Results are presented in three sections corresponding to the questions in the interviews.

Introduction to Participants

In this section, introductory information about each participant gathered during the beginning of each interview is presented. To preserve confidentiality, each participant was randomly assigned a numerical value (Table 4.22). In this part of the interview participants were asked the following questions:

- How many times per week would you estimate you look for and watch online video to learn about something? Reasons for looking for online video to learn something could be professional or personal.

- What platforms or sources do you use to look for and watch online video for informational purposes? [If several are mentioned ask which they use most frequently]

- Thinking specifically about using online video to learn something for either personal or professional reasons. . .

- Can you give me some examples of what you try to learn by watching online video?

- How do you decide which videos to watch for those reasons?

- What are the biggest challenges you face when trying to find an online video for those reasons?

Participant 1

When asked about their use of online videos for professional or job-related purposes, Participant 1 responded that they use them "all the time " to seek assistance with software usage or other tasks. In their role as a media librarian, they also frequently searched for online video to determine availability of "particular videos on a particular topic." This participant reported using online video for either personal or professional reasons about "five times a week," mostly on YouTube but also through Google searches that sometimes led them to various platforms other than YouTube.

When asked to provide some examples of what they try to learn by using online video this participant stated that much of it is for personal use, especially, "DIY [do-it-yourself] how to remove a carpet or how to stain the deck" and similar projects. The next question asked the participant to consider how they decide to watch those videos. Responses included the length of the videos, video and audio quality, and the specificity of the video content to their information need. Finally, this participant reported that the biggest challenges encountered when trying to find video for information included difficulty finding "someone who's had exactly the same problem that I have" and needing to "try multiple times to search it in a different way using

different terms" to find what they are looking for.

Participant 2

In response to being asked how they have used online video for professional or job-related reasons Participant 2 reported watching "webinars and stuff by people I know who are talking about topics that are interesting to me" as well as videos focused on professional development topics like communication skills in their role as a librarian that works with media. Additionally, they locate online videos for library patrons, produce training and other online videos, and digitize videos for online access. They reported looking for and watching online video for informational purposes between one and seven times per week, mostly on YouTube but also using Google and sometimes Dailymotion because they are bilingual and "can sometimes find things in other languages there easier."

Examples of what they try to learn from online video included communication strategies, cooking techniques, and pedagogical material. When asked how they decide which videos to watch Participant 2 reported that they look for creators that they like such as a well-known chef or those that "seem trustworthy," and for good production value, especially good production value that can be assessed via preview thumbnail content. Their biggest challenges were finding content that is free to view, too many search results complicating discovery, and the specificity of online video content not always fulfilling their information needs.

Participant 3

When asked how they have used online video for professional or job-related purposes, Participant 3 reported that most of it has been for "training purposes" related to their work as a librarian. They reported watching online videos for personal or professional informational reasons about "10 times a week," mainly on YouTube or news websites on topics that run "the

gamut" of things from politics to nature to health to "just something cute, you know, like kittens."

When asked how they decide which videos to watch for any of those reasons they reported looking for credible sources, especially for health-related topics, by looking for content from reputable hospitals and health organizations. They also reported focusing on finding unbiased and factual sources for news-related topics. Their biggest challenges finding online videos for informational purposes were that "there's just so much out there and a lot of it is just junk" as well as the proliferation of advertisements embedded in online videos.

Participant 4

Participant 4 reported using online video in their job as a media librarian for "licensing and searching for titles" or to find "content based on a topic" that faculty members requested. For personal or professional reasons, they reported looking for and watching online videos to learn about something about once a week. They did so by searching on Google which almost always took them to YouTube. They stated that YouTube was "about the only platform" they used for informational purposes but that they visited other platforms (Netflix, Amazon Prime) for entertainment.

When asked to give examples of what they try to learn by watching online video Participant 4 stated that they look for videos about diverse topics. A frequent topic of interest to them was beekeeping because they want information from sources that include visual information about "the type of equipment they [beekeepers] use, the way their apiaries are set up, [and] the tools." This participant also mentioned that they used informational video to discover learning activities for their grandchildren. They reported that when deciding which videos to watch they prioritize by length and the expertise of or their familiarity with the creators or people

in the videos. This participant stated that they "don't really find challenges" in the process of finding online videos for those reasons mentioned above.

Participant 5

When asked how they used video for professional reasons, Participant 5 described doing so for training and development and for reasons related to their work "in a business where we distribute video" such as finding information about other companies, video creators, and associated subjects. When asked how many times per week they look for and watch online video to learn about something either professionally or personally this participant said "minimally 25 or 30 times a week and probably half of that is split for professional versus personal." They reported watching online video for informational purposes on a variety of platforms, typically starting at Google or on the proprietary platform produced by the company they work for, with the majority of their viewing taking place on YouTube, various media outlets, or dedicated platforms for specific types of videos such as TED (www.ted.com).

Examples given for what they try to learn by watching online video included information about current events like the war in Ukraine and background material related to those current events. When asked how they decide which videos to watch for those reasons the participant stated that the "title of the video is one of the more compelling things" as well as "the key art or the still, whatever is in the thumbnail." Additionally, they report considering the publisher, the number of times a video has been viewed, topical relevancy and recency. Reported challenges included the time it takes to find informational videos that have a greater depth of information than many of the commonly available short videos that only give a "cursory overview of something."

Participant 6

When asked how they use online video for professional or job-related purposes, Participant 6 stated that in their work as a film distributor they are usually looking for information about longform documentaries especially related to availability of films, features of the trailers, and whether information about the film in question is "properly being positioned online." They reported that the weekly frequency of watching online video for informational purposes varied widely when considering professional use but that it "could be a lot," while their rate for personal use is usually limited to one or two times weekly. This participant also stated that they use an "above average" number of video subscription services such as Netflix, Amazon Prime or HBO Max and use social media platforms, especially LinkedIn, heavily when searching for online video for informational purposes but that they do not use YouTube professionally for anything other than posting or sharing videos.

When asked for some examples of what they try to learn about by watching online videos Participant 6 responded that they do not watch "seminars" because they tend to be far below their "knowledge level" but that typically they look for online videos to learn about specific films. In answer to the next question this participant named three criteria they employ for deciding which online videos are relevant including considerations of the genre, the audience, and the subject matter. To answer the final question they stated that the biggest challenge of finding online video is the "overabundance of films."

Participant 7

When asked how they use online video for professional or job-related purposes, Participant 7 stated that they use online video for professional or job-related purposes "almost continuously" in their "practice as a media literacy educator and college professor" because

"that's what I do." When asked how many times per week they use online video to learn something new for personal or professional reasons weekly, they estimated four to five times a day. When asked about platforms used for informational videos, they responded that YouTube is "huge" and they also use Vimeo, library resources like Alexander Street Press and Kanopy, and consumer platforms like Netflix.

When asked to provide some examples of what they try to learn by using online video Participant 7 gave several examples of personal informational use including cooking, cleaning, gardening, and decorating; professional uses included grant-funded media literacy projects and YouTube videos or channels that "blend information, entertainment and persuasion in a really interesting package." Criteria they employ to make decisions about which videos to watch include the creators and their channels, as well as the content of videos with a focus on the "first three minutes" of any potentially useful video. Reported challenges to finding online video included their own tendency to satisfice search results by going with the "easy path" and using YouTube.

Participant 8

When asked how they use video for professional or job-related purposes, Participant 8 gave the example of doing so in order to learn how to edit video so "like every other librarian in this world, I go to YouTube." When asked how many times they searched for online video for informational purposes each week they estimated between zero and 20 times, noting that "it ebbs and flows" depending on how much time they have available. When asked which platforms they use to look for online video for informational purposes this participant stated that it "depends on what machine I have in front of me" and then explained that on a laptop they use Google while on a phone they "go straight to YouTube and start there." It also depends on whether the

information needed is related to their job; in that case the participant reported being more likely to use platforms other than YouTube, many of which are provided by their employer.

In answer to the question about what they try to learn by watching online video, Participant 8 stated that for personal reasons it is usually "practical hands-on skills" while professional reasons tend to be more philosophical and skills-building. When asked how they decide which videos to watch for those reasons this participant said that they look for descriptive text, anchors in videos that allow them to jump around as needed, the audience, level of expertise, and "presenters who are a little bit humble in their presentation" style. The biggest challenges they mentioned facing were related to discoverability, especially "knowing what to look for or what search terms" to use as a novice and having the time required to search effectively.

Participant 9

When asked how they use online video for professional or job-related purposes, Participant 9 said that "the main way as a video librarian is [to] fulfill requests from instructors to find content of a certain type or sometimes of a particular title," for training purposes, or for video reviews of other types of informational content. This participant estimated that they look for and watch online video for information between 10 and 15 times per week, usually starting on Google and then limiting the results to video. They also reported sometimes using video databases provided by their institution instead of Google.

Examples that Participant 9 gave about what they try to learn by watching online videos included using software or databases, cooking, how to play board games, or for information about travel destinations. When asked how they decide which videos to watch for informational reasons this participant stated that they look for creators or publishers they are familiar with, how

many times a video has been viewed or upvoted, and length. The biggest challenges they mentioned were not getting enough results for topics that have not been well covered by videos, finding material that is too amateurish, or finding too many videos in response to a search for a topic that many online videos address.

Participant 10

When asked how they use online video for professional or job-related purposes, Participant 10 stated that in their role as a leader in a video-focused nonprofit they primarily use online video for content that would be of interest to members and affiliates of the organization. They reported looking for and watching online videos to learn about something multiple times a week and at least daily. This participant reported using a variety of platforms that are "all over the place" but primarily search for videos using Google because they "look for the content rather than the platform."

When asked for some examples of what they try to learn by watching online videos Participant 10 stated silent films and videos related to programming. They specifically look for sharable videos that are "interesting, unique, and that are high quality." When asked about the biggest challenges or roadblocks they encounter when trying to find online video this participant responded that the amount of content that is low quality or low resolution, and a lack of video content on specific topics.

Task Completion and Think-Aloud

During this part of the interview, participants were asked to identify two information needs and complete searches for online video to fulfill them while thinking aloud about how they were making decisions. Participants could identify their own information needs related to either personal or professional purposes. Prior to beginning their searches participants were asked a

series of questions to clarify the information need for the researcher and provide insight into

what kinds of informational video participants were hoping to find or avoid. Participants were

informed that they should continue searching until they concluded the search either because they

found the information they were looking for or because they decided that the search was

unsuccessful. Once each search was completed participants were asked five follow-up questions.

All but one of the participants used either Google Search Engine and/or YouTube to look for

online video in every search instance; Participant 8 used academic and library resources for one

search because the information need identified for that search was relevant specifically to their

professional role as an academic librarian.

Table 4.23

Summary of Searches

	Time Spent	Search 1	Success	Search 2	Success
Participant 1	20:03	Reference management software	Yes	Kitchener stitch (knitting)	Yes
Participant 2	28:12	Fifth grade writing prompts	Yes	Drip irrigation	Yes
Participant 3	25:38	Prevalence of drug use at high school events	No	Vegan meal prep	Yes
Participant 4	17:30	Winterizing beehives	Yes	Professional method of cleaning canine teeth	No
Participant 5	29:33	Box office success of specific genre of films	No	Knife skills for cooking	Yes
Participant 6	25:00	Availability of documentaries online	Yes	Availability of documentaries online	Yes
Participant 7	26:20	Depolarization in politics	Yes	Styling throw pillows	No
Participant 8	33:02	Changing the oil in a car	Yes	Black Indians in New Orleans	Yes
Participant 9	42:10	How to make raindrop cakes	Yes	Lenni-Lenape tribe	Yes
Participant 10	32:58	Availability and quality of silent films online	Yes	Installing a furnace filter	Yes

Participants searched a wide range of information topics during this part of the interview. All but one participant chose to fulfill two highly distinct information needs; only Participant 6 chose two closely related information needs, both of which they reported commonly experiencing in their work in video distribution. Time spent on this part of the interview ranged from 17 minutes and 30 seconds (Participant 4) to 42 minutes and 10 seconds (Participant 9). All participants completed at least one successful search for one of their information needs; overall sixteen of the 20 total searches were successful. Reasons given for being unable to complete the search were challenges formulating successful search queries ("how to figure out what to search for that's going to serve up the right information" and "the search terms were definitely not productive") and a lack of available content ("I guess there's probably not a video for what I want" and "videos probably aren't the best source to find this information"). A summary of time spent on this portion of the interview, search topics, and search success is shown in Table 4.23.

The results of coding this portion of the interview include the identification of 30 relevance criteria that were mentioned as considerations by participants as they searched for online video to fulfill their personal information needs. Table 4.24 displays the criteria ranked in descending order of usage frequency by the participants ($n = 10$).

Table 4.24

30 Relevance Criteria Used to Identify Information in Online Video

Criteria	# Participants	Total # mentions
Topicality	10	159
Length	10	46
Creator	10	32
Video content	9	59
Affective preference	9	44
Presentation style	9	26

(table continues)

91

Criteria	# Participants	Total # mentions
Publisher	8	68
Depth of information	8	56
Platform	8	43
Person/people in video	7	25
Availability	6	29
Commercialism	6	28
Recency	6	26
Credibility	6	23
Accessibility	6	19
Usefulness of preview thumbnail	6	12
Expertise	5	18
Interactions	5	17
Audience	5	13
Search rank	5	7
Video/Audio quality	4	23
Related media	4	5
Popularity	3	11
Production value	3	11
Genre	3	6
Cost	2	5
Channel	2	4
Copyright	1	3
Language	1	1
Bias	1	1

Relevance Criteria Identified in this Study

Topicality

Topicality means that a participant stated that the subject of an online video or what a video was about was a consideration for them as they made decisions about the relevance of online videos during the search process. Participants mentioned topicality as a consideration both before viewing a video, based on descriptive text or preview imagery, as well as during the

process of watching a video while assessing whether it fulfilled the information need. It was often referenced by participants as a particular video being "useful" or having information specific to the interests of the participant (e.g., a specific geographic location, the release year of a movie discussed or shown in an online video, etc.). Topicality was expressed both when present in a video ("this is totally on the money for me" -Participant 7) and when lacking ([reading video titles aloud:] "'Why do teens use drugs?' 'Reasons teens use drugs.' . . That's not really what I'm looking for, so I would disregard those" -Participant 3). This criterion was employed by all 10 interview participants and was also the most frequently mentioned criterion.

Length

Length was considered by all 10 interview participants during each of the searches completed. This criterion was employed when a participant mentioned that the runtime or length of a video was a factor for whether they decided that it would fulfill their information need. Preference for both a longer runtime and a shorter runtime was expressed by participants in different instances. It is related to a sense of how much information on a topic is desired ("It's an hour and 25 minutes and that seems like a solid enough intro to sort of hit on various aspects of EndNote" -Participant 1; "I didn't want to watch a long video about air flow. I wanted to get a quick answer about which way does the arrow go on the filter" -Participant 10). The length desired also related to how much time a participant was willing to spend learning about a topic ("I don't really want to sit through, you know, a 36-minute video for something that I could read in 5 minutes" -Participant 3). Length also came up in consideration of whether an online video could be considered complete in the two search instances wherein participants sought to evaluate the availability and usefulness of online video for professional use in distribution or programming ("I might do a little more research on the running time and find out, you know,

why this one is longer than the others" -Participant 10; "that looks like a trailer [rather than the desired video]. You can see the runtime; there's only two minutes" -Participant 6).

Creator

Like topicality and length, the criterion of creator was considered by all 10 participants, who each mentioned at least once that the person or group of people that produced, recorded, or posted a video and was presumed to have created it, was a consideration as they searched for online video. Specific qualities mentioned in relation to considering the creator of a video included perceived authority ("it's from a chef" -Participant 5), popularity ("see who the influencers are" -Participant 7), and familiarity ("look at who the beekeepers are and if they are ones I know" -Participant 4).

Another consideration related to the criterion creator was representation. For example, Participant 9 wanted to find videos made by the cultural group they were seeking information about because of "all the discussion of representationality and things like that that have taken place over the last, say, five years or so and just how important it is to go to the source when it comes to underrepresented cultures, so I try to make that a first step." Additionally, some participants wanted videos produced by a creator that represented similar background to their own such as Participant 7, who was seeking videos made by "a YouTuber who's thinking about traditional homes."

Video Content

All but one of the participants considered video content when searching to fulfill their informational needs during the interview ($n = 9$). The one participant that did not consider it chose not to view any videos during this part of the interview, relying instead on descriptive text and other metadata to assess the usefulness of online videos (Participant 6). The other nine

participants used the content of online videos to determine whether the information included in them was credible, specific to their information need, complete enough, and presented in a way that was useful to fulfilling their information need. For example, during a search for information about winterizing beehives, Participant 4 considered whether having a "beehive in the middle of the driveway" in the video content was problematic, ultimately deciding that it was "just for demo purposes" so therefore useful. Another participant looked at the content of several videos to determine which was best demonstrating the knitting technique they were interested in and decided that they liked a video that displayed "different color thread' when showing the demonstration (Participant 1). One participant applied the criterion video content to determine appropriateness, stating that "I'm looking for red flags regarding racial content because it comes up all the time and you know, just watching a film that I have seen before and sometimes I get surprised, you know, by seeing something like that and it's a deal breaker" (Participant 10).

Affective Preference

Affective preference is a criterion that depends upon the personal feelings, opinions, or preferences of an information user. Participants relied on their personal interests, like and dislikes in a variety of ways when assessing the relevance of online videos for information needs. For all but one of the participants ($n = 9$), affective preference impacted relevance judgments related to other relevance criteria including video content, creator, credibility, the usefulness of video thumbnails, publishers, and topicality. One participant described a decision about whether a cooking video was useful by saying "it's what appeals to me and I don't care where I get it [the information] from as long as it sounds delicious" (Participant 3). Another participant stated that although the videos they had found did include information that was relevant to their information need, the "primary way to make these cakes is using an ingredient that I don't like to use"

(Participant 9). One stated that they were "looking at the thumbnail [image of a video] and just kind of, like, turned off by it" (Participant 7). Another described a topically relevant but affectively irrelevant video as being "actually a really good film but…I have no desire to watch that; it is just sort of gross anyways." The only participant that did not employ affective preference to make relevance judgments during this process was searching for informational videos related to their work in distribution but with seemingly little personal interest in them (Participant 6).

Presentation Style

This relevance criterion refers to the way that information is presented in a video. All but one of the participants mentioned presentation style when searching for online video ($n = 9$); the only participant that did not was Participant 6 who did not consider the style or content of video important to their information needs that focused on whether to distribute a video. Whereas video content relates to consideration of whether the material in a video was relevant, presentation style refers to how that material is demonstrated or discussed. Both video content and presentation style were mentioned by participants while they were either viewing or considering viewing a video, or when viewing a preview thumbnail of a video. Presentation style was typically mentioned in a negative way, when stylistic elements of a video were found lacking such as when Participant 5 stated that "I think it's a little bit goofy, like the music and sort of the approach" while discussing what they did not like about a particular video about kitchen knife skills. Similarly, a video about the Lenni-Lenape culture was deemed to be not useful partly because it was "dated in its approach" to presenting the information (Participant 9). However, presentation style could also be a positive relevance criterion as when Participant 7 decided to watch a video because it looked "serious and academic" or when Participant 2

96

selected a video about writing prompts because it looked "very instructional for whatever reason."

Publisher

This criterion relates to the organization, publication, or type of institution that was responsible for making an online video available online. All but two participants ($n = 8$) mentioned considering the publishing source as they were searching for online video. The publisher criterion is different from the platform criterion because videos are frequently made available on platforms that are not related to the publishing organization; for example, government institutions may publish their videos on a platform such as YouTube. This criterion was mostly considered prior to participants deciding to watch a video and based mostly on descriptive text and metadata that could be gleaned from the URLs (e.g., "this one's domain name is Oradell.com, and this is the vet that I use" –Participant 4). Publishing sources were considered with respect to credibility, and this criterion was considered important enough to warrant additional research in at least three of the searches. For example, Participant 3 found videos that appeared to be topically relevant but were from "really just one source at this point, which is Public School Review, and I'm not super familiar with that so let me just pop in and check their…see if I can find out more information on them." Other mentions related to the criterion publisher included "I'm seeing this BBC thing" (Participant 2); "Plastichead, that's a distributor in the UK" (Participant 6); and "this is a student newspaper" (Participant 7).

Depth of Information

Participants mentioned depth of information both while searching for an online video and reading descriptive text as well as while watching a video. All but two participants mentioned depth of information during their information searches ($n = 8$). This criterion relates to how

detailed a video was, or whether information in a video was too narrow, too broad, too

introductory, or gave too much of or not enough of an overview. This criterion could be related

to expertise, but the expertise level of information seekers does not necessarily correlate to the

depth of information needed to fulfill an information need. For example, one participant self-

identified as having no expertise in an area related to their information need but wanted to find

an online video that was more complex than "just a super short overview of something…giving

me some background that I'm going to need for as a person who doesn't really know anything"

(Participant 1). Considerations employing the criterion depth of information also related to

judgments made related to the length of a video such as "many other things would not have

satisfied me, as you saw, when we saw the shorter things and the more introductory things, I was

specifically looking for research" (Participant 7). Other mentions of depth of information

included statements such as "they would get in the weeds about issues around measurement"

(Participant 7); "feels like it's maybe too introductory" (Participant 5) and "this is more general

but what I sort of might be looking for" (Participant 10).

Platform

All but two participants mentioned that the platform on which a video was hosted was a

consideration as they determined whether an online video was relevant ($n = 8$). The platform on

which a video is hosted can impact relevance in different ways, related to accessibility,

credibility, and discoverability. Relevance judgments related to platform might also differ

depending on what devices people are using to search for online video for informational

purposes. For example, Participant 8 stated that when searching for informational video about a

cultural group "how I would do this would change depending on whether I'm in my office or at

home…if I were at home and I had my TV in front of me, then I would use our public library's

Kanopy subscription, and I would just stop there." Platform also was considered during

relevance assessments related to the topicality and depth of information likely to be in a video

such as when Participant 3 noted that videos on Twitter were likely to be "kids talking about

what they're doing but it's not going to give me an overall, you know, view of what's going on

or what, you know, the majority of people are doing." Platform was also considered in terms of

the overall quality of a video such as when Participant 10 discovered that the same video was on

two different platforms: "I see YouTube as a source and I also see dailymotion.com which is

interesting, that maybe it's the same one that's on YouTube, but Daily Motion might

actually…be pointing at a better quality of video." Other mentions of platform included being "a

little disappointed to find that everything is a YouTube video" (Participant 3) and "it's a

Facebook video" (Participant 9).

Person/People in Video

All but three of the participants mentioned considering the criterion person/people in a

video when assessing relevance ($n = 7$). In most cases, this criterion was identified when

watching a video and including assessments related to how the person or people in a video look,

act, or display characteristics. Those characteristics included apparent credibility as in statements

such as "he seems to know what he's doing" (Participant 5) and "the person who's presenting the

information seems more qualified than in previous videos" (Participant 9). Physical

characteristics and the apparent identity of person/people in videos were also considered as in "it

seems to be like an energetic teacher" (Participant 2), as well as physical characteristics related

to representationality ("she's more, like, my age" --Participant 7). This criterion seems related to

judgments made based on affective preference ("maybe somebody's voice is annoying or

something, so you decide to switch to somebody else–Participant 3).

99

Availability

Six of the ten interview participants mentioned the criterion of availability as they were searching for online video for informational purposes. This criterion is straightforward and indicates that a participant was concerned with whether a specific online video was available or, in a more general sense, whether an online video that fulfills their information need existed. This criterion is somewhat similar to accessibility except that the concern is not on ease-of-access but on whether a video can be accessed at all. One of the participants (Participant 6) focused heavily on availability as their searches for information were both related to their professional interest in discovering video that might be suitable for distribution, so this criterion was a primary factor of consideration in how they structured their searches and made relevance judgments. Availability tended to come up for participants when they were encountering challenges in the search process. For example, in looking for informational video about a cultural group, Participant 8 stated that they were disappointed in the amount of content they were finding and that "more folks need to make good documentaries that are available to us." Participant 9 also encountered a video that looked relevant based on several categories of criteria (topicality, credibility, depth of information) but was concerned that it was only available "in Canada; I'm not sure if they have distribution licenses for the U.S."

Commercialism

More than half of the participants mentioned that the criterion commercialism -- whether a video was a direct or indirect advertisement, or whether it contained advertisements --was a consideration for them as they searched for online video ($n = 6$). This criterion was mentioned during the search process while reading descriptions or browsing search engine results lists, as well as while viewing videos. Participants avoided clicking on videos that were apparently ads,

scrolling through search results to get "past all the ads" (Participant 4). Commercialism appeared

to be related to the criterion credibility, such as when Participant 3 checked a website to find

publishing information but found that the site was "popping up with ads, which is not great." Too

many ads embedded in a video was also mentioned in relation to commercialism as Participant 9

stated that "I'm used to having to skip through some content at the beginning of a video [but] if

ads pop up too much I'm probably going to skip back and find something else that isn't as loaded

with them." Although commercialism was generally considered a negative characteristic of a

video (participants wanted ad-free, noncommercial content), it was not necessarily a deterrent to

eventually finding a video relevant even if it included marketing. Participant 2 stated early in the

process that they were not interested in seeing videos trying to sell something but then relaxed

that stance when they found a video that fulfilled other relevance criteria, explaining that "I

thought I didn't want something where somebody's trying to sell me something, but I'm going to

actually watch this Home Depot video."

Recency

Six of the ten interview participants mentioned that how recently a video was made was a

consideration for them when judging the relevance of videos in the search portion of the

interview. Considering recency related to both how recently a video was created and to whether

the content of the video was current. This criterion was straightforward and easily identified

during coding as statements related to it were clear. For example, "I tend to prefer stuff that's

recent" (Participant 7) and "it's from 2017 so that's not really helpful" (Participant 5).

Participants mostly assessed recency by looking at metadata or descriptive text and mentioned it

prior to watching any part of a video, although in one case this criterion was applied after starting

to watch a video. While watching a video about installing gutter guards Participant 10 stated "to

see if this is of interest, I'll skip forward…I can automatically see that this is probably old" and then when selecting a different video this participant stated that they were making a different selection because "this looks newer."

Credibility

Credibility was mentioned as part of the process of selecting relevant online video by six of the ten interview participants. It was often mentioned while using descriptive text or metadata to assess relevance and in conjunction with mentions of the criteria creator or publisher ("I'm just trying to assess how much do I, you know, trust the source for these:" Participant 9). One participant considered credibility as they watched an online video, basing on the person/people in the video and the video content, saying that the video seemed credible because "she's citing research and giving specifics" (Participant 3).

When it was employed, credibility seemed to be more of a crucial consideration for some information needs than for others. For example, participant 3 mentioned that they were assessing the credibility of online videos 7 times in the search that they made for research related to drug use in high schools but did not mention it at all when searching for online videos about vegan recipe planning. It also seemed to be a factor that would drive participants to overlook issues with access or discoverability of an online video as Participant 2 stated that if they "trust a publisher of content, I'll, like, hang through the fatigue -- like I scrolled down and then I scrolled back up on the page, sort of to be sure that I didn't miss something."

Accessibility

Half of the interview participants mentioned that the criterion accessibility was a consideration when determining whether an online video was relevant to their information needs ($n = 5$). This criterion is related to how easily a video can be accessed, either because of assistive

attributes such as closed captions or other reasons such as the number of steps required to get to a video. Accessibility was mentioned 13 times overall but only 4 of those mentions were related to assistive technology, as in "I might also turn on the subtitles potentially to see what the text is, especially if I'm going at a super high [playback] speed" (Participant 1) and "sometimes I'm watching these when other people are sleeping or can't be disturbed so closed captions are also important for me" (Participant 8). The majority of accessibility mentions were related to frustration with being able to get to a video easily, such as when a website required software installation which prompted the statement "it wants me to download stuff and all that baloney so we're not doing that" (Participant 3) and "what was nice about that is, like, the DIY-how-to video was just right there" (Participant 2).

Usefulness of Preview Thumbnail

Usefulness of preview thumbnail is a criterion applied when a participant specifically mentioned that content of the preview thumbnail made it possible for them to decide whether a video was relevant. This content could include both visual information as a preview of the video content as well as textual information which can be seen in the key moments (Figure 4-4). One participant stated that "the title of this video was…it almost had me pass one it, I'm like, oh, is this like a parody horror movie? But it actually sounds like it's a report, so this is one example where I think the thumbnail [preview video] got me" (Participant 5). Another said that "the preview thumbnail does influence what I'm interested in" (Participant 10), and another that while trying to determine which video in a list of search results was most relevant they were "scanning the descriptions and looking at the thumbnails and I am probably putting more into the thumbnails than the descriptions themselves" (Participant 7).

Figure 4.4

Video Preview Thumbnail and Associated Key Moments
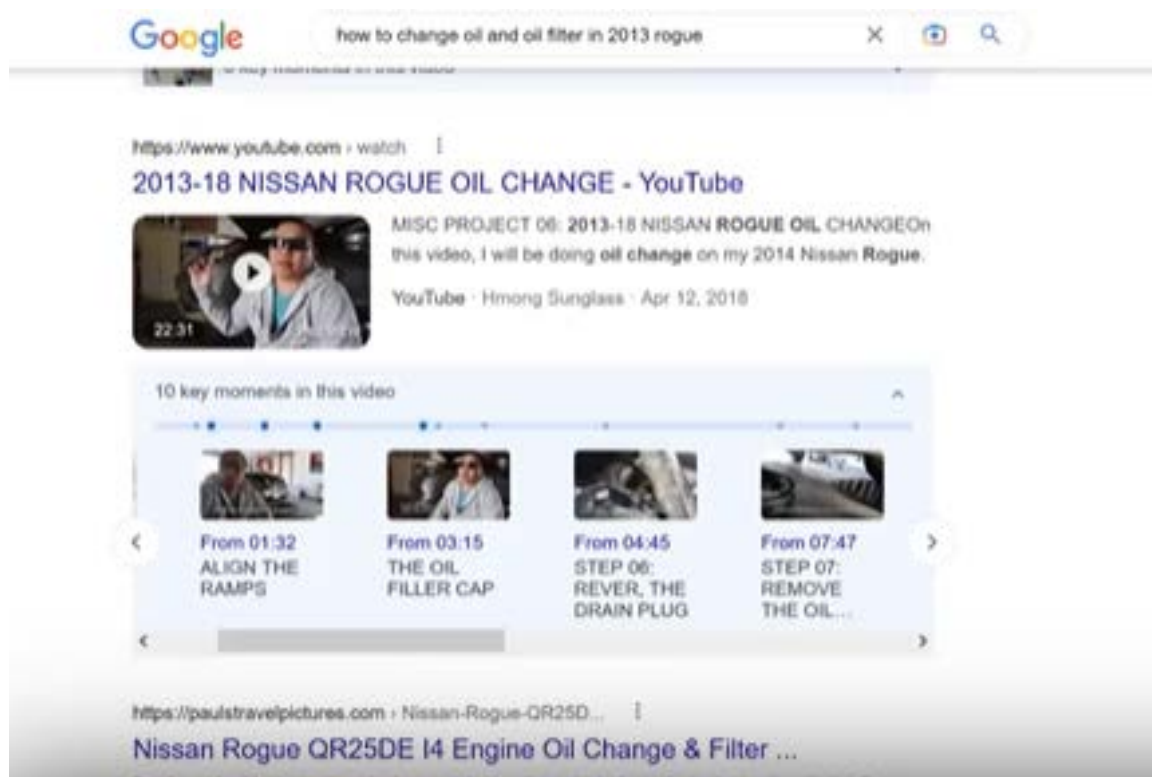
Expertise

This criterion was applied when a participant mentioned that their own level of experience or knowledge of a subject fitting with the apparent expertise level of a video was a consideration for them as they as they determined whether an online video was relevant. Half of the interview participants mentioned expertise as a criterion when searching for online video for informational purposes ($n = 5$). In searching for videos demonstrating how to change the oil in a car one participant stated that ""I think it's just my lack of knowledge of some of these words is going to be an issue at this stage" (Participant 8). Another example of this consideration occurred during a search for demonstrations of cooking skills when a participant read the title "Basic Knife Skills" and then said that "I feel like I'm better than basic at this point; I'm looking at

improving from basic so I probably wouldn't look at that" (Participant 5). In one instance the expertise in question was not the participant's but rather the expertise of the person for whom they were searching for writing prompts as they dismissed one video for having writing prompts that were "definitely not at her level" (Participant 2).

Interactions

An interaction is a singular operation that users can make with an information source. Interactions are extensively employed during the process of searching for and selecting relevant online video and include scrolling through search results, clicking on links to videos, playing or pausing a video, fast-forwarding or scrubbing through a video, using a back button to return to search results, and many others. Interactions were only coded as a relevance criterion when participants specifically stated that if they had been unable to complete an interaction for any reason, they would not have considered a video relevant. Only two types of interactions were mentioned by participants as being crucial to assessing relevance. These instances of interaction included browsing through the content of a video by either fast-forwarding in the video player or by scrolling through key moments in the video preview and being able to share an online video.

Half of the participants stated that being able to make one or both of these specific interactions was necessary to being able to find that an online video was relevant to their information need ($n = 5$). Examples of fast-forwarding being necessary to judging relevance include when a participant stated that "if I had not clicked through the very beginning with my mouse to get to, like, sort of a preview in the middle…I would have gone back to my results list and started watching another video instead" (Participant 2). Another participant found that being able to view and skip ahead in a video was critical to its relevance as otherwise it would have been too long; "even though it's 22 minutes and I was shocked by that I'm like, oh, I could just

skip to where I need to go" (Participant 8). Another participant stated that if they were unable to fast-forward past ads they would go "back and find something else that isn't as loaded with them" (Participant 9). Finally, Participant 10 specifically wanted videos that could be shared via social media or blog posts so whether they were "sharable" was considered critical to a video's relevance.

Audience

Half of the interview participants mentioned considering who a video appeared to be intended for when assessing relevance ($n = 5$). Audience was mentioned when one participant was looking for online video related to their work in distribution through considerations such as whether a video "has a targeted market" and questions like "who is your film for?" (Participant 6). Audience also came up in assessing the relevance of online videos that would be appropriate for a program that would be "family friendly" (Participant 10). Audience was also considered when participants were trying to determine whether the content of a video would be relevant to their own information need. For example, one person stated that "on the one hand it looks like it could be good but I'm also thinking like, oh, this is something for teachers to use in class" (Participant 2) while another decided not to watch a video because it was apparently "a production for school children" (Participant 9).

Search Rank

Half of the interview participants mentioned that how high an online video is in search engine results list impacts their decision to watch it ($n = 5$). One participant noted that even though they will scroll through quite a few of the results from a search they are unlikely to select anything lower than the highest result, saying that "I do this whole performance of looking through all of them, and I do this for myself. So, like, I skim the first page and then I almost

invariably go to the very first one at the top of the page, which I know is silly, but that's what I do" (Participant 8). In thinking aloud while clicking on the second search result in a list, another participant reported that "normally I would just click the first one that I see but I'm actually more intrigued by this" (Participant 10). Even though it wasn't mentioned by all of the participants, only one demonstrated a willingness to go beyond the first two pages of search results during this observed search portion of the interview (Participant 5).

Video/Audio Quality

Four participants mentioned that the quality of the video was a consideration to them during the relevance assessment process, and one participant also mentioned that the quality of the audio mattered. Video/audio quality in these cases meant either how it appeared generally, and could be related to filming/editing techniques, as well as quality in the sense of how well a film or tape had been transferred to a digital format. Statements related to video and audio quality were fairly straightforward: "it's a little soft but it looks like it's been cleaned up" and "great transfer" (Participant 10); "this video, holy moly, it's super shaky" (Participant 8); "this particular video is driving me crazy with how it's bopping all over the place (Participant 1).

Related Media

Four participants mentioned that they considered that related media such as a podcast or text-based information on a platform or website when evaluating whether a video was relevant. One participant considered related media in both of their searches as being important to providing context to one of the videos and as being a helpful extension of the information in the second video. That participant specifically selected videos because of the associated media, in the first case stating that "even though this video is on NPR and YouTube, I'd probably go to NPR since I have a choice, specifically because there's usually a bit of a breakdown [on the NPR

107

website]" and in the other stating that they chose the video partly because the creator had other videos that would be useful if they wanted more information (Participant 5). Another participant selected a video because related media provided the additional information and credibility they were looking for (Participant 7) while another liked that one of the videos they were assessing was "pretty cool because it also has this podcast episode" (Participant 8).

Popularity

Popularity was considered relevance criteria if a participant mentioned that how many views a video had received, or how positive the comments about a video were, were a consideration for them as they determined whether an online video was relevant. Three participants considered the popularity of online video during this process. Popularity appears to be related to credibility as one participant stated that "seeing that it's got over 800,000 views of the video, I think that shows that there should be a level of quality here that goes beyond, like, amateur" (Participant 5). The same participant also seemed to consider popularity to be an predictive indication of the quality of video content as they said that "if enough people are asking about it and he has that kind of a group of followers then it's probably going to be a solid video" (Participant 5). Another participant looked at popularity before watching a video as they decided to "read the comments while listening to it" and then said that it "seems like it was well-received so I'm going back to the video to watch" (Participant 9).

Production Value

Production value is essentially the quality of work that went into producing a video; technical and creative content, and directorial skills can determine production value. Three participants mentioned that the apparent production value of a video influenced their relevance assessment ($n = 3$). One participant passed on watching one video because it was "not as well

produced or as well put together as I would be looking for" and selected another that was "a little more produced" (Participant 9). Interestingly, two participants considered production value but decided that they could still find videos relevant in spite of their preference for high production value. Participant 2 went ahead and selected a video after "overcoming some of their own ideas around the production value" while Participant 6 considered it but noted that in relation to their professional video interests "you don't need a cinematic experience to make a documentary that is highly worthwhile viewing." These responses indicate that production value may be considered even if other criteria are determined to be more valuable.

Genre

Three participants mentioned the genre of videos as they determined whether an online video was relevant to their information need. In one instance a participant declined to select a video because even though it was topical it was a "travel vlog" rather than a documentary and then found that another video of potential interest was actually a "music video" rather than an informational video (Participant 8). Participant 6, who was searching for information about films related to their professional work, looked closely at whether videos were documentaries while Participant 5 considered genre when trying to assess the intention of a video prior to watching it to determine if it was a "parody horror movie" or an informational video.

Cost

Two participants mentioned that the monetary cost of watching a video was a consideration as they determined whether an online video was relevant. In one case the participant was concerned about the cost to themselves as well as to students of their institution. They stated that "there was a Vimeo link and a YouTube link so maybe they could access it if they wanted to pay for it but again, I don't want them to pay for it" (Participant 8). Another

participant found a video that was apparently relevant topically and had the credibility they were seeking but when they found that it was "behind a paywall" they declined to watch it and continued searching for other relevant videos (Participant 7).

Channel

Two participants mentioned that the channel a video was on was a consideration for them as they as they determined whether an online video was relevant. In both cases the participants were referring to YouTube channels, not television or other channels. Channel is similar to other source criteria of publisher and platform, but differs in that it refers to an online collection of videos that are frequently similar in topic and production value, and that frequently, but not always, have common creators or publishers. Statements related to considering a YouTube channel during relevance assessment included ""because of the name of this channel I'm assuming this is going to be something along those lines" (Participant 5) and "sounds like it's on a channel that covers different tribes so I might click on the name of the channel" (Participant 9).

The final three relevance criteria identified from observing participants search for informational video were only employed by one participant in each case. However, given that each of these criteria has been identified in other studies of relevance criteria, including studies of relevance criteria for evaluating multimedia or video, it was decided that they should be included in the results despite the low incidence of mentions.

Copyright

This criterion was mentioned by one participant as they searched for online video that could be shared publicly as part of their professional work. The concern was particularly with whether the video was in the public domain as they stated that they were "not exclusively

110

looking for public domain content, but it helps if it is. If it isn't, then it's just something that I'm going to have to, you know, book and pay copyright for" (Participant 10).

Language

This criterion was mentioned by one participant when they tried to view an online video that was not entirely in English. They stated that "the language it's it had some I believe that was kanji characters in Japanese. So, you know, this, this may not be the video that I would use" (Participant 9).

Bias

This criterion was mentioned by one participant as they were searching for videos and trying to "avoid videos from very biased sources that are trying to lean you one way or the other without a lot of research to back up their opinions or what they're presenting" (Participant 3).

Questions on Relevance Criteria

In order to elicit additional insight about relevance criteria participants employed when searching for online video for informational purposes the third section of the interview consisted of 24 questions that each focused on a specific criterion (Appendix C). Each of the criteria had been previously identified in related studies of relevance criteria and multimedia or video (Schamber, 1991; Yang, 2005; Albassam & Ruthven, 2018) (Appendix E). Because of the high number of criteria identified in those three studies and the need to manage the time of each interview appropriately, only criteria present in more than one of them were included in the questions. The only exception to that was the question about interactions which was included because of the focus of interactions in this particular study.

Although the focus of this study is to examine relevance criteria applied in a situation

with ecological validity (i.e., searching while thinking aloud), asking participants directly whether they considered additional criteria immediately after they searched for online video to fulfill an information need provided both a more comprehensive view of those criteria as well as a more comprehensive understanding of the limitations of methodologies used in measuring relevance judgments. One participant did not answer these questions due to technical difficulties and time constraints. Sometimes a participant stated that they considered a criterion during one but not both of their searches. Occasionally, a participant did not understand or chose not to answer a question. These are marked as n/a in the results. The 24 questions and the responses to them can be seen in Table 4.25.

Table 4.25

Number of Total Responses to Questions about Specific Relevance Criteria

Questions about Relevance Criteria	Yes (Both)	Yes (1)	No	n/a
Whether or not the information in the video was accurate	9	0	0	0
How long the video was	9	0	0	0
How high the video was in the search results	9	0	0	0
How specific the information in the video was	8	1	0	0
How clearly the information in the video was presented	8	1	0	0
How useful the information in the video was	8	0	0	1
Whether the creator or presenter of the video is reliable	7	1	0	1
The quality of the presentation	7	1	1	0
The quality of either the video or the audio	7	1	1	0
How much it cost to watch the video	7	0	2	0
How accessible the video was	6	0	3	0
What language the video was in	6	0	3	0
Who was in the video	6	1	2	0
Who published or distributed the video	6	0	3	0
Whether or not the information in the video was current	5	0	4	0

(table continues)

Questions about Relevance Criteria	Yes (Both)	Yes (1)	No	n/a
How much you were able to interact with the video	5	1	3	0
How recently the video was released	4	1	3	1
How popular the video appears	3	3	3	0
Whether the video was biased	3	2	4	0
The apparent audience of the video is	3	2	4	0
Where the video was made	2	1	5	1
The copyright status of the video	2	0	7	0
Recommendations or reviews about the video	2	0	7	0
How many awards the video had	1	0	8	0

Every participant responded affirmatively to three of the criteria asked about in this section of the interview - whether the information in a video was accurate, how long a video was, and how high the video was in the search results ($n = 9$). Interestingly, "accuracy" did not come up as a consideration for any of the participants during the search and think-aloud portion of the interviews, although the length of videos and how high they were in search results did. Almost all of the participants responded affirmatively to three qualities of information within online videos–specificity, clarity and usefulness ($n = 8$) as well as to criteria related to reliability of the creator or presenter, and the quality of the presentation, audio or video ($n = 7$). Few of the participants answered affirmatively to questions concerning where a video was made, copyright status, recommendations, or reviews ($n = 2$), and only one participant responded affirmatively to the question considering awards received by a video.

Summary

In this chapter the results of data collected through various methods -- an online survey and an interview consisting of both open-ended and closed-ended questions as well as searches employing think-aloud protocol -- are explicated. The variety of methodologies employed

provide a wide range of data points and perspectives for analysis. The focus of the next chapter

will be to discuss themes that can be identified within the data, highlight points of interest related

to future studies of relevance criteria and online video, and draw conclusions related to the

research questions.

CHAPTER 5

DISCUSSION

Introduction to the Section

Understanding relevance and identifying the criteria by which people make relevance judgments is essential to various fields, including information science, education and librarianship, and online video platform design. Despite the centrality of the concept of relevance to information science research and theory, there is a lack of consensus on its definition. The information behavior, particularly relevance assessments, of online video users has not been sufficiently studied or understood. The findings of this study contribute to addressing this gap and have a variety of practical applications. The primary focus of the study was on two research questions:

1. What relevance criteria do information users employ when searching for and evaluating the relevance of online video for informational purposes?

2. How do the interactions users make when assessing relevance of online video for informational purposes impact relevance criteria?

The study employed a survey and interviews including think-aloud protocol to investigate relevance criteria for evaluating online video. In addition to the primary focus of the study on the two research questions stated above, user perspectives and data gathered during this research study turned out to be quite extensive, providing insight not only into relevance and online video but also into related areas such as online video information seeking behavior in general, what information needs are fulfilled by online video, that some information needs are better addressed by text-based formats of information, and how video format uses are changing in relation to the ubiquity of streaming video. This information cannot be fully explored in this paper but will be discussed briefly in this chapter along with potential areas for future research.

Relevance Criteria and Online Video for Informational Purposes

Study participants were asked to identify relevance criteria applied to searching for online video for informational purposes three different times in this study. Each instance involved a different method of collecting this data: survey questions, video information seeking while employing think-aloud protocol, and interview questions. The interview process involved real-time information seeking and relevance judgments immediately followed by questions eliciting further information about relevance criteria. It is likely that the criteria identified during the interview portion best reflect real-life relevance criteria, so those are the criteria that are focused on as the main outcome of this study.

The first research question focused on what criteria information users employ to assess the relevance of online video for informational purposes. Table 5.1 lists the 32 criteria identified during the interview portion of this study; 30 of them were identified during the think-aloud portion of the interview while two more were identified during the follow-up questions to the think-aloud portion.

 Interestingly, accuracy - a criterion that is consistently identified as widely applicable in relevance judgments in previous research (Schamber, 1991; Barry, 1994; Barry & Schamber, 1998; Yang, 2005) did not come up during the think-aloud portion of the interview. However, when asked about it in the closed-ended questions immediately following the think-aloud portion all responding participants stated that they did consider the accuracy of the videos. This has implications for how the methodology of future studies of relevance judgments that employ active searching and real-time identification of criteria could be structured. Using think-aloud and active searching to study relevance judgments is clearly a useful methodology but a more complete understanding can be gathered by including specific questions that get participants to

consider criteria that they might not have thought to talk about independently.

Table 5.1

32 Criteria Employed to Assess the Relevance of Online Video Used for Informational Purposes

Criteria Mentioned During Search	Additional Criteria via Questions
• Topicality • Length • Creator • Video content • Affective preference • Presentation style • Publisher • Depth of information • Platform • Person/people in video • Availability • Commercialism • Recency • Credibility • Accessibility • Usefulness of preview thumbnail • Expertise • Interactions • Audience • Search rank • Video/Audio quality • Related media • Popularity • Production value • Genre • Cost • Channel • Copyright • Language • Bias	• Accuracy • Awards

It might also indicate that information users may make subconscious rather than intentional assumptions about whether information in online video is accurate. This could be an area for further research. Understanding how and when information users consider whether the information they encounter online could have broad usefulness to studies not only related to

relevance but to information literacy in general and specifically to understanding misinformation.

Relevance Criteria Connection to Previous Studies

There were six relevance criteria that participants mentioned during the think-aloud portion of the interview that were not identified in previous studies of relevance criteria and video or multimedia (Appendix E). These include platform, commercialism, usefulness of the preview thumbnail, related media, channel, and interactions. Interactions will be discussed in a separate section of this chapter focused on the second research question. The other five criteria not identified in previous studies were platform, which was mentioned by eight of the ten participants, commercialism and usefulness of the preview thumbnail which were applied by six out of the ten interview participants, related media which was considered by four participants, and channel which was considered by two participants. Each of these are worth discussing in more detail as they may have previously unrecognized impacts on information users' needs, online video platform design, or other practical or conceptual uses.

Interview participants considered the platform on which online video is offered, such as YouTube, Vimeo, or Facebook. The platforms of online videos impact relevance judgments in relation to credibility, the usability of the platform, familiarity with using the platform which makes watching videos on it more intuitive, or whether the platform provides additional resources or context for videos. An online video platform can impact expectations for the quality and reliability of the video content that is hosted on it. Some platforms have specific policies or guidelines for content that affects the types of videos that can be posted, while others have more lenient and open policies. Additionally, some platforms have a more established reputation for hosting high-quality, trustworthy content, while others might be more focused on user-generated content. Moreover, different platforms might have unique features or tools that can affect the

way users interact with and experience videos. For example, some platforms might include features like additional content to provide context for videos, recommendations, comments, or social sharing, which can impact the perceived relevance and value of a video. All of these potential features can impact relevance judgments of users and as demonstrated in this study users may select a video as being relevant to fulfilling their information need because of the platform it is available on.

Commercialism is a relevance criterion that refers to the extent to which information or products are influenced or shaped by commercial interests. In the context of information retrieval, commercialism can impact the relevance of information by affecting its quality, accuracy, and impartiality. For example, in search engines, the display of sponsored results, which are determined by commercial interests, can impact the relevance of the information that is shown to users and make it more likely that information contained within a video is presented with the intention of selling a product rather for informational use or learning. Commercialism of online video has led to an online information environment wherein information is retrieved or recommended based on factors such as popularity, profitability, or advertising revenue, rather than their actual informational or useful relevance to the user.

Participants in this study considered the presence of advertisements or other commercial content within a video or multimedia as an undesirable factor affecting its relevance. It was considered negatively in all cases in which commercialism was considered a criterion, meaning that participants actively tried to avoid using online video that was created for commercial purposes. This evaluative consideration is increasingly important as online video is increasingly created for commercial purposes that are not always clear. The pervasiveness of the commercialism of video is evident through quick Google searches which can identify a large

119

amount of guidance on monetizing video with titles such as "YouTube Algorithm: How it Works and How to Optimize your Videos" and even "How to Optimize YouTube Videos for Relevance." Direct advertising such as an embedded advertisement within an online video is typically easy to identify but monetization of content, subtle product placement, and "influencers" drive the more indirect commercialization of online video which will lead to the necessity of improving media education and increasing skepticism of information users.

When an interview participant explicitly stated that the preview thumbnail helped them determine the relevance of a video, the usefulness of the preview thumbnail was considered a relevance criterion. The content of the preview thumbnail is comprised of visual information providing a glimpse of the video content, as well as textual information visible in key moments. Participants used the preview thumbnail, or cover image, of the video or multimedia to judge the relevance of it before deciding to watch or interact with it.

The preview thumbnail is often the first visual element that users see when browsing through a list of videos returned as search results. It provides a quick and accessible way to evaluate not only the topical usefulness of a video but also other relevance criteria such as presentation style and video/audio quality. It appears that information users are more likely to select an online video as being relevant when a preview thumbnail is available. This is especially true of longer videos because the preview thumbnail makes browsing within the video possible so that information seekers can determine whether the full video contains the specific information at the quality and depth they need.

In some cases, participants were more likely to find an online video relevant because of associated related media. The related media could be other videos, content on a webpage, and in one case was a podcast. Related media might be more influential as a relevance criterion as more

and more information becomes linked online and information users continue to make relevance assessments not only based on qualities of one particular online video or information source but also on other media that provide context or further information related to an online video. Understanding the value of related media as a criterion considered during relevance assessments can serve as a useful tool for organizing, linking, and presenting online video.

The channel relevance criterion could refer to any channel through which information is conveyed (such as television channels) but in this study, channel was considered only in reference to YouTube. A YouTube channel is a personal, institutional, or business presence, essentially a webpage that contains metadata, descriptive text, and links to videos, as well as information about the channel owner/s. YouTube channels allow individuals and organizations to upload, share, promote, and view videos. Online video users can visit YouTube channels to watch video and to follow creators or publishers of interest.

Information users might consider the channel or creator of the video or multimedia as a factor in evaluating its relevance because the channel may imply or provide some credibility, provide context for the video, or give insight into the type and content contained within a video. Different types of channels may be considered more or less relevant for different information needs. For example, information that is communicated through traditional news sources such as television, radio, and print media may be considered more credible and relevant than information that is communicated through social media or other less formal channels. On the other hand, information communicated through social media or other informal channels may be more relevant for certain topics, such as breaking news or real-time events, where timeliness is a critical factor.

Each of the criteria discussed in this section was identified by study participants and is

likely to be important to helping information users determine the relevance and potential value of video or multimedia content in an increasingly crowded and diverse digital landscape. Identifying these criteria can help develop a theory and an overarching definition of relevance for information science.

Interactions and Relevance Criteria

Interactions are singular actions that users can make with an information source. Examples include clicking pause on a video player, using the back button on a browser, or scrubbing (skipping to different points on the timeline) in online video. A list of interactions that are commonly employed in searching for and evaluating online video is in Appendix F.

The second research question in this study asked whether interactions employed when determining relevance of online video for informational purposes impact relevance judgments. The short answer to this question is simply that yes, interactions impact relevance judgments and, in some cases, may even be considered relevance criteria. Interactions are singular actions that users can make with an information source. Previous studies have shown that user interactions with online video platforms can include inputting and editing keyword search terms; browsing lists of search results; scrubbing through videos; playing, rewinding or fast-forwarding videos; reading descriptive texts; browsing categories and recommended videos; following creators and channels; and using social media or recommendations to find and share videos (DeWitt-Miller & Wang, 2016; Gillespie, 2014; Wildemuth et al., 2010).

Interview participants in this study were observed making a wide variety of interactions while they were assessing the relevance of online video to their information needs. Participants also applied the think-aloud protocol to many of their interactions, stating aloud that they were reading titles, scrubbing through a video, looking at key moments in a preview thumbnail, etc. It

is likely that many of these interactions influence relevance judgments but for the purposes of identifying a connection between relevance judgments and user interactions, interactions were only coded as criteria when a participant specifically stated that they would not select a video if a specific interaction was not possible, or if they stated that the presence of an interaction was a reason for selecting a video as relevant. Through this analysis two interactions were identified as relevance criteria: browsing through the content of a video by either fast-forwarding in the video player or by scrolling through key moments in the video preview, and whether an online video was "sharable" via social media, email newsletters, etc.

Saracevic called interaction "a dialogue between the participants—elements associated with the user and with the computer—through an interface, with the main purpose being to affect the cognitive state of the user for effective use of relevant information in connection with an application at hand" (2007a). Interactions play a crucial role in relevance judgments because they allow individuals to directly assess the pertinence of a given item in relation to their needs or interests. Interactions also help individuals make decisions about the relevance of video information by providing additional context, allowing them to better understand the item, and making it possible to test their assumptions and predictions. It seems clear from this study that interactions with online information directly impact relevance judgments and that in some cases specific interactions may be considered relevance criteria.

<center>Application to Conceptual Frameworks</center>

The findings of this study fit into several conceptual frameworks for relevance that have been proposed in the field of information science. Generally, any conceptual framework or model might include the following principles: relevance is dynamic, situational, subjective, and impacted by the systems in which users encounter information. The principles under discussion

<center>123</center>

have received significant attention in the relevant literature, and this study's findings confirm

their presence.

Relevance appears to be "dynamic and situational" (Schamber et al., 1990). Relevance is

not static; it can change over time as the context and needs of individuals change and can be

described as the degree to which information, or a particular information source, meets the needs

or interests of an information user at a specific point in time. Relevance criteria are also

situational and dynamic, dependent on the nature of the current information needs of the

information user and they can be adapted as needs and information availability change.

Table 5.2

Top Five Most Frequently Reported Criteria for Different Informational Uses of Online Video

Learning a New Skill	Research a Topic Of Interest	News or Current Events
1. What the video is about	1. How accurate the information in the video appears to be	1. How recent the video is
2. The quality of the visual content	2. What the video is about	2. How accurate the information in the video appears to be
3. How accurate the information in the video appears to be	3. The quality of the visual content	3. What the video is about
4. How recent the video is	4. How recent the video is	4. The quality of the visual content
5. User reviews or ratings	5. The quality of the audio content	5. The quality of the audio content

One factor that can impact the situational nature of relevance is the task at hand. For

example, the relevance of information may differ depending on whether an individual is

conducting research for a school project, seeking information for a personal hobby, or trying to

solve a work-related problem. In each of these situations, the individual's goals, needs, and

expectations will be different, which will influence their perception of the relevance of

information. This was demonstrated not only in the interviews but also in the survey results as

survey participants reported applying different criteria for different uses of online video (Tables

4.14-4.16). The differences in the most frequently reported relevance criteria applied to different informational needs for online video are summarized in Table 5.2 which shows the top 5 criteria applied for video used to learn a new skill, research a topic of interest, or to learn about news or current events. This comparison makes it clear that survey participants reported employing different criteria in different situations.

The situational nature of relevance criteria was observed during the interviews as well. For example, Participant 1 was asked whether they considered the reliability of the information in their searches for video related to knitting and software. They responded that they did consider it when searching for information about using software and that they selected the video because the creator was "someone who clearly knows what they're talking about" but that when looking for information about knitting it was less crucial due to their own knowledge level. Because the stitch in the video looked "familiar for what I had done in the past I didn't feel the need to question its authority."

Relevance criteria also change dynamically over time. This phenomenon was observed in this study, as interview participants applied criteria during the search for an online video that changed during the watching of a video. For example, interview Participant 8 began one search for an online video about changing the oil in a car by considering length, search rank, and topicality but then while watching or previewing videos turned to considering video/audio quality and the person/people in a video.

Relevance criteria also change as participants sometimes adjust their expectations when they struggle to fulfill an information need which can result in adjusting their reference criteria to fit the need. For example, Participant 9 stated that "I had thought initially [the information in this video] was a little more specific than I had started out looking for but given that I'm not finding

that fairly easily and this is a short clip, I'm going to go ahead and click on it and see what I can learn from it." The same participant stated a few moments later that the online video did not meet their initial expectations but that "I guess my information need is, is shifting a little bit with this one."

Finally, relevance criteria may not only change dynamically and situationally for individuals but there may be cultural shifts in how relevance is assessed as well. One example observed in this study was *commercialism*. As discussed previously in this chapter, the importance of considering and assessing the commercial nature of information might be becoming more critical and the criterion *commercialism* more commonly applied during relevance assessments. Another example of a possible cultural shift in relevance criteria relates to the *person/people in videos* that information users now expect to be representational as well as personally appealing, authoritative, or credible. Representationality came up in both the survey results from participants who reported looking for people in videos who had similar features (hair or skin color) to themselves when seeking information related to beauty or style assistance. It also came up during the interviews, as in the case of Participant 9 who stated that "all the discussion of representationality and things like that that have taken place over the last, say, five years or so and just how important it is to go to the source when it comes to underrepresented cultures, so I try to make that a first step" when seeking information about cultures other than their own.

Relevance is also highly subjective and relevance criteria are applied subjectively. This subjectivity can be influenced by anything–the information user's geographic location, social and cultural background, current emotional state, preferences, previous experience with an information source or format, etc. The subjective nature of relevance criteria was observed

126

throughout this study and can be seen in the variety of different criteria reported for different information needs in the survey as well as in the interview results as participants emphasized different criteria for similar information needs. For example, both Participant 5 and Participant 9 wanted videos providing information related to cooking. Both applied the relevance criterion topicality in similar ways but had very subjective needs for relevance criteria such as length as Participant 5 wanted a longer video while Participant 9 wanted something short. During that same search Participant 5 emphasized depth of information more so than Participant 9 who emphasized their affective preference for certain types of food instead. The subjective nature of relevance is clearly demonstrated throughout this study.

Relevance criteria appear to be both intuitive and implicit, perhaps often going consciously unconsidered during the information seeking process. Participants in the interviews, many of whom had educational or professional experience with either using, designing, or teaching with video retrieval platforms and so could be assumed to be more intentional in their information searching process than many people, frequently stated that despite their experience they had never considered their own applications of relevance criteria to information seeking. Relevance assessment can even appear to be an almost subconscious process in some cases such as was seen during the interview portion of this study. Not one interview participant discussed considering accuracy when searching for online video, yet all participants that were questions directly answered affirmatively when asked whether they had done so following the think-aloud search process. Participants seemed to assume that the information in the videos they selected was accurate without actively verifying or discussing what made it so or even acknowledging that it was a consideration until questioned directly during the final stage of the interviews.

Finally, a framework of relevance should include recognition that the features of

information retrieval systems and the availability of information also impact user relevance judgments and relevance criteria. This was observed throughout this study as well, as participants considered which information format would best serve their needs and whether the desired format was available, struggled to assess relevance when discoverability of information was an issue, and considered system features, such as available interactions and how search results were ranked, to be relevance criteria. As the amount of information available continues to grow, it becomes increasingly difficult for individuals to find and access the information they need, and information users become even more dependent on retrieval systems for assistance in the process. The wealth of resources can result in information overload, which can further impact the individual's perception of relevance, especially if discovery and retrieval systems are not sufficient to meet user needs. For example, an individual may find a particular piece of information less relevant if they are faced with a large amount of information that they must sift through to find it.

Saracevic stated that "[r]elevance models identify elements or variables involved in relevance and their interactions while relevance frameworks specify a variety of relevance manifestations or types of relevance" (2016, p. 144). Establishing an overarching model and conceptual framework for relevance would make it possible to systematically identify, evaluate, and prioritize information based on its significance and usefulness to the problem or question being addressed. It could guide future research and provide a cornerstone for theory development. An accepted model and/or conceptual framework for relevance in the field of information science could define and provide insight into the concept of relevance in a systematic and comprehensive manner, consist of several key components, including definitions, underlying principles, and practical applications.

A conceptual framework for relevance in the field of information science refers to a set of concepts that can be applied to determine what information, data, or content is considered relevant to a specific research study, topic, or decision-making situation. Schamber described the importance of developing "a conceptual framework that will describe relevance criteria across all types of information seeking and use situations" (Schamber, 1991, p. 186). Furthermore, in a study of relevance criteria applied by users when seeking weather-related information from multimedia, Schamber proposed ten categories of relevance criteria (accuracy, currency, specificity, geographic proximity, reliability, accessibility, verifiability, clarity, dynamism, and presentation quality).

Table 5.3

Relevance Criteria Identified in This Study Mapped to Schamber (1991)

3 Schamber Categories	32 DeWitt-Miller Criteria	
Information (Accuracy, Currency, Specificity, Geographic Proximity)	• Topicality • Length • Video content • Depth of information • Person/people in video • Recency	• Expertise • Audience • Related media • Genre • Bias • Accuracy
Source (Reliability, Accessibility, Verifiability)	• Creator • Publisher • Platform • Availability • Commercialism • Credibility	• Accessibility • Popularity • Cost • Channel • Copyright • Awards
Presentation (Clarity, Dynamism, Presentation Quality)	• Presentation style • Interactions (some) • Video/audio quality	• Production value • Language

In that same study these ten categories were found to fit within three very broad categories (information, source, and presentation). The value of identifying the broadest categories possible within which all relevance criteria may fall is so that any "definitional

framework may be flexible; it could be reorganized or reshaped for study from different viewpoints, but the user-based criterion categories would remain essentially intact" (Schamber, p. 188). In the interest of connecting the criteria identified in this study to other proposed conceptual frameworks the criteria were considered in relation to the broad categories of relevance criteria proposed by Schamber (Table 5.3).

However, three criteria from the current study that do not appear to fit in these broad categories. These are usefulness of preview thumbnail, search rank, and affective preference. Additionally, the criterion interactions does not fit neatly into the category of Presentation as some interactions are not related to the way that information in a video is presented. The addition of two categories, one related to discoverability and one to affectivity or subjectivity, could be useful and more inclusive of all types of criteria. It seems likely that as the widespread availability of online information and the number and type of sources and information formats continues to proliferate users will be more reliant than ever on discoverability as a key criterion for relevance. Subjective needs will also factor more highly into relevance judgments as more information from a wider variety of sources and in a vast array of formats will cater to subject information needs in a way not previously possible with traditional text-based and physical information sources, or even earlier iterations of online resources which tended to be static, text-based, and more structured than we are seeing as online information evolves.

The category of discoverability would include usefulness of preview thumbnail, search rank, and, in some cases depending on which interactions are being considered, interactions. The discoverability of a resource or information object, in this study specifically an online video, seemed to be a clear factor in whether a source was considered relevant. Participants favored videos that were higher in the search results (thus deemed more relevant), relied on interactions

that enabled them to find and evaluate resources, and stated frequently that the content of a preview thumbnail video was important to assessing relevance. General comments related to the importance of discoverability such as "the biggest challenge [to finding relevant video] today is the overabundance of films" (Participant 5) imply that information that takes time and energy to find is less likely to be considered relevant. Participants are likely to being satisficing when unable to easily discover a video they consider relevant which also implies that discoverability impacts relevance judgments. For example, Participant 9 stated that their "information need is shifting a little bit" in response to struggling to discover online video that met their preferred criteria because they could not find "anything right off the top."

Additionally, the affective criterion did not seem to have been as widely employed in the study of weather-related multimedia from which the three broad categories were developed, possibly because the focus of the information need was useful and professional rather than personal. A category such as related to affective or subjective judgments could be included for criteria that are related to personal opinions, feelings, beliefs, preferences, etc. This category was actually identified by Schamber in the study, but only as "entertainment value" which fit into the category of presentation style for those information users. However, in this study affectiveness was linked to more than presentation style and entertainment; it related also to video content, creator, person/people in video, and even the criterion of publisher.

In a later paper that compared the relevance criteria and categories identified in that study to criteria identified in a similar study that looked at criteria applied to relevance assessments of text-based information, ten categories of relevance criteria were identified (Barry & Schamber, 1998). These categories did include affectiveness, as well as depth/scope/specificity, accuracy/validity, clarity, currency, tangibility, quality of sources, accessibility, availability of

information/sources of information, and verification. The criteria identified in this study were also considered in relation to those ten categories (Table 5.4).

Table 5.4

Relevance Criteria Identified in This Study Mapped to Barry & Schamber (1998)

10 Barry & Schamber Categories	32 DeWitt-Miller Criteria
Depth/Scope/Specificity	• Depth of information • Expertise • Audience • Genre
Accuracy/Validity	• Accuracy • Bias
Clarity	Presentation style
Currency	Recency
Tangibility	Topicality
Quality Of Sources	• Creator • Publisher • Platform • Person/people in video • Channel
Accessibility	• Availability • Accessibility • Search rank • Cost • Copyright
Availability/Sources of Information	• Video content • Credibility
Verification	• Person/people in video • Commercialism • Popularity
Affectiveness	Affective preference

Seven criteria from this study that did not fit within any of the categories shared by the two studies in that paper. These are: length, usefulness of preview thumbnail, interactions, video/audio quality, related media, production value, and language. However, some of them did fit within other specific categories mentioned in one of the two original studies such as

presentation quality and dynamism (Schamber, 1991). Ultimately, the comparison report appears to be a useful starting point and identifies that there are many commonalities among relevance criteria across user backgrounds, information needs, and information formats, but the categories appear to be not broad enough to account for all categories of relevance criteria.

Table 5.5

Relevance Criteria Identified in this Study Mapped to Saracevic (2007b)

7 Saracevic Categories	32 DeWitt-Miller Criteria	
Content	- Topicality - Depth of information - Video content - Production value - Person/people in video	- Genre - Presentation style - Language - Recency - Usefulness of preview thumbnail
Object	- Length - Search rank - Platform - Video/audio quality - Availability	- Related media - Accessibility - Cost - Interactions - Copyright
Validity	- Creator - Channel - Publisher - Bias - Commercialism	- Accuracy - Credibility - Awards - Popularity
Use or situational match	All criteria	
Cognitive match	Expertise	
Affective match	• Affective preference	• Person/people in video
Belief match	Person/people in video	

The criteria identified in this study were also considered in relation to the seven categories of relevance criteria proposed by Saracevic (2007) (Table 5.5). Each of the criteria does fit within these categories although one criterion, person/people in video, could fit in more than one depending on the participant and their information need. For example, when an interview participant stated that they were determining whether a video was relevant by

considering the person/people in the video, they might have been considering the credibility of the person or people in the video ("validity"), whether they inspired confidence ("belief match") or simply considering whether they were personally appealing ("affective match"). It is also difficult to determine whether any of the criteria would not fit into the Saracevic's category called "use or situational match" because the intention of finding useful information was embedded in every information search in this study so it seems that all of the criteria would fall into that category. It is possible that broader categories would be useful for addressing these difficulties.

The first three categories proposed by Saracevic match those proposed by Schamber (content, object, and validity). Combining the final three categories proposed by Saracevic into one category such as "Subjective Match' to borrow his language, or 'Affective Match' to borrow from the Schamber and Barry review of cross-situational relevance criteria (1998), could be useful for overcoming some of the challenges of determining the boundaries between beliefs, affectivity, and cognition. And potentially the inclusion of a category related to the discovery process of information finding and relevance judgments would account for criteria related to whether an information source is easy enough to find and evaluate to be considered relevant. So, a proposed conceptual framework for relevance criteria might have five categories: content, object, validity, subjective or affective match, and discoverability.

In conclusion, a comprehensive conceptual framework for and model of relevance would provide a basis for systematic and comprehensive understanding of the concept of relevance, including its definitions, underlying principles, and practical applications. This framework would be useful for informing a variety of applications, including information retrieval, product recommendations, customer experience, and user-centered design. It would also provide a

foundation for the necessary work of developing a theory of relevance in the field of information science. Identifying the fewest necessary categories of relevance criteria that are broad enough to include criteria for all information needs and all formats of information is a key step in this process and the categories of content, object, validity, affective match, and discoverability could possibly fulfill this goal.

<p style="text-align:center">Practical Applications of the Results of this Study</p>

Usefulness to Video Platform Design

The findings of both parts of this study, the survey and the interviews, can provide practical insight and useful applicability to designing video platforms. The emphasis placed on various criteria for different information needs can inform the value of including features in video retrieval platforms such as recommended videos, user-generated reviews, improved visual browsing through the use of key moments and similar features, and the importance of both text-based description and image-based discovery in all systems. The interactions identified as especially necessary to relevance judgments (browsing within videos and shareability of discovered information) should provide a starting point for basic features in any video platform.

Additionally, the value of *credibility* and *accuracy* to information searches combined with the challenges of assessing credibility and accuracy of online video should be considered in video platform design. When searching for information in text-based formats (journals, books, even websites) it is easier and more common to find associated references and sources. Online video, on the other hand, is mostly presented without references, making it difficult to identify sources and establish the credibility of the resource and accuracy of the information contained within a video. Possibly even more concerning, participants in this study appeared to take the accuracy of the information contained within the online videos they found mostly for granted.

With the proliferation of misinformation and disinformation in online environments, online video platform designers can use this evidence to improve the validity of online information by including source information and references in the platforms and even embedded within videos.

The value placed on *related media* as a criterion for finding online videos for informational purposes relevant is also helpful to video platform designers. Online video is more useful to some information users when text-based or other supportive media is included with it and made easily accessible. Linking related media with online video within video platforms also fulfills user needs related to accessibility accommodations such as audio description but also accommodates users with different learning styles that may benefit from have a variety of formats and supporting documents to choose from.

It is important to consider *commercialism* as a relevance criterion as it can have a significant impact on the relevance and credibility of information and can affect the trust that users have in the sources and platforms that they use. To ensure that information is relevant and trustworthy, it is important for platforms and providers to be transparent about the influence of commercial interests on their offerings, and to take steps to minimize the impact of commercialism on the relevance and quality of the information that they provide.

Previous studies have noted that textual information is relied on heavily during searches for video, but as visual summaries and surrogates become more common that may change. In one instance of this study a participant stated that they were looking at both but "putting more into the thumbnails than the descriptions themselves" and then a few moments later said that "I think with like this video here, I'm looking at the thumbnail and just kind of like turned off by it" indicating that the decision about whether a video was relevant was based on a visual summary rather than any descriptive text or metadata. This finding emphasizes the need for video platform

designers to continue seeking to improve visual summaries of video information as they have become integral to relevance judgments. Having a well-designed and relevant preview thumbnail can greatly impact the user's decision to watch a video. It can also help to differentiate a video from others and make it stand out in a crowded list of search results.

The relationships between criteria observed in this study can also be useful. The presence of some descriptive or interactive features in online video platforms appear to change information seekers' emphasis on some relevance criteria. For example, duration (*length*) appears to be less important if key moments are available as in the case of Participant 7 who said "22 minutes. Good Lord. Sorry looking at the duration of this one…but it has ten key moments, which is even better." Similarly, the presence of some interactive features impacts information seekers' emphasis on some relevance criteria - for example, being able to easily skip uninteresting parts of a video such as the introduction of speakers makes it possible for users to make relevance judgments unhindered by needing to scrub through a video or, even worse, to watch the entirety of a video before assessing relevance.

The 32 relevance criteria identified in this study can also be useful to improving the algorithms that influence the discovery of online information. As platforms that identify content through algorithms that assess relevance in a way that is mostly invisible and often unquestioned by users, it is important that the relevance criteria embedded in the algorithms that select our information are based on real-world, real-people information needs and not just determined by commercialism. Where people get their information is increasingly social media or social media adjacent, driven by influencers and marketers. We need platforms and information retrieval algorithms that are designed to include user participation in the information discover process and encourage users to make their own relevance assessments rather than relying on the invisible

137

decisions made by algorithms. Relevance criteria applied by real users in real information seeking situations such those identified in this study should be key considerations for that design.

Practical Considerations for Education and Librarianship

Understanding the needs and behaviors of information users is important in both education and library science, fields that are closely linked. The importance of understanding how relevance judgments may be changing in response to the changing environment of information online as misinformation and disinformation proliferate is crucial. Ensuring that information users are educated about the pervasiveness of commercial interests in the algorithms that increasingly determine what information individuals encounter online is more important ever. Teaching people to evaluate carefully, to question their own relevance judgments, and to consider not only the appearance of credibility and accuracy but to investigate and confirm accuracy and credibility when encountering video is key.

The challenges that study participants faced related to the discoverability of online videos–that there are too many results to effectively evaluate, that useful information gets buried lower in the search rank thus becoming essentially irrelevant, that options for browsing are still insufficient–are all teaching opportunities as well as considerations for the organization of library resources. The relevance criteria identified in this study can provide a focus for educators and librarians. Understanding relevance is key to understanding and evaluating information. It is directly related to preventing the spread of misinformation. Information users need to understand their own implicit relevance judgments in order to evaluate information sources which is necessary to evaluating information.

Libraries play a crucial role in providing access to information. Librarians can apply the findings from this study to better organize and facilitate retrieval of information in their libraries.

For example, librarians can use relevance criteria to guide the selection of library materials, ensuring that the collections are up-to-date and relevant to the needs and interests of their users. They can also use relevance criteria to improve the organization of information, making it easier for users to find and access the information they need. In addition, librarians can use relevance criteria to improve the design and functionality of library websites and other digital resources, such as online catalogs and databases. By considering the relevance criteria that users consider important when searching for information, librarians can improve the search experience and ensure that users are able to find the information they need quickly and easily. Finally, librarians can use an understanding of relevance criteria to provide more effective reference and information services, helping users to evaluate the relevance and credibility of information, and to find and use the most relevant resources for their needs.

Summary

This study identified 32 relevance criteria, one of which is the interactions that information users make when searching for and assessing relevance of online videos used for informational purposes. Most of the relevance criteria are similar or identical to relevance criteria identified in previous studies. The value of identifying these criteria is that it shows both consistency and dynamism in the specific criteria that are used across information formats and indicates the need to continue studying this phenomenon as information and information users continue to evolve. It also indicates that identifying broadly applicable categories of relevance criteria is possible. Doing so would be a profound addition to the field of information science.

CHAPTER 6

CONCLUSIONS

Implications for Future Research

With the exponential growth of online video content and platforms, users are increasingly seeking personalized and relevant information from audiovisual formats. "In recent years, the broader range of human thinking modalities has become legitimate" (O'Connor & Copeland, 2013, p. 6). This drives a need for video content that is not only engaging, but also provides meaningful insights, and relevant information. Building on this and related studies, more research is needed to understand user relevance. Research is needed to better understand how video users interact with different types of videos, including news, tutorials, and entertainment, to better understand evolving information needs. Research will also be useful to examine the ways in which video platforms are adapting to these changing needs, including how algorithms and recommendation systems to deliver customized content and impact relevance judgments, and to guide the development of these platforms. Additionally, the impact of emerging technologies such as virtual and augmented reality on video content and user behavior will also be studied. The goal of this research is to help video platforms and content creators better understand and meet the evolving needs of their audience.

Potential research questions related to the proliferation of audiovisual information and the increasing frequency with which users encounter information in a variety of formats include:

- How do we adapt our information systems, especially libraries, to the way that people look for video, the search strategies they employ and relevance criteria they rely on?

- As new video platforms like TikTok revolutionize the way that video is encountered how does education keep up? How do libraries keep up?

- How are the new ways that online videos are encountered impacting the relationship that people have to information; for example, how is credibility assessed when it's

often difficult to ascertain the creator or origin of a video, much less the sources of the information within a video?

- How do people even begin to identify their own information needs given the vast quantity of information being "discovered" for them by algorithms and endless scrolling platforms?

Studying information behavior, including and perhaps especially, relevance judgments is more critical now than ever.

Population samples were small in this study, so it is impossible to say if the findings are representative of the general population. Additional research involving different populations and/or larger sample sizes focused on how people use video for information and how they make relevance judgments when doing so would be valuable. Both methodologies applied in this study provide insight into user relevance and could be replicated with different groups of information users for more insight. There is also potential for research in this area focused on collaborative searching rather than independent information seeking by individuals. Additionally, although the focus of this study was relevance criteria both the survey and the interview provided a wealth of insight into information behavior involving video. Some of these insights also provide a starting point for further research.

For example, it appears that the different participant groups in the study may use video differently. Survey respondents were grouped into the categories of "professional" or "student" in order to compare input from the two distinct groups of respondents. Although finding whether these numbers are statistically meaningful was not possible because the response groups were not large enough to be representative samples, several interesting observations could be explored further. Differences included that reported frequencies of watching online video were higher for students than professionals. Is that statistically significant? Are younger information users more likely to seek information from audiovisual or interaction sources? If so, what does that mean for

future information needs of students, library users, etc.? Is a greater reliance on audiovisual formats for information changing the way that information users look for, evaluate, and make use of information?

Related to research on how information behavior might be changing in response to the variation and accessibility of available information, future research could focus on how text and video may fulfill information needs differently. Study participants indicated that in some cases their information needs are better fulfilled by text-based formats than by video. This was seen in both the survey results (Table 4.20) and interview results. Interview participants stated that their information need would be better fulfilled by text-based information in three of the searches (Participants 4, 5, and 7). What makes an information need better suited to one format? And how does that impact relevance criteria? Future studies could aim to understand the motivations, contexts, and factors that influence the choice of information format.

Only a few computer interactions were mentioned as specifically impacting relevance judgments in this study, but many other interactions could be observed during the think-aloud portions of the interview. These observable interactions included all of those listed in Appendix F. It is not possible to quantify these interactions given the limitations of the software used and the intentional environmental validity which made it necessary for the search process to flow with minimal interruptions from the researcher in this study; nor is it necessary to the purposes of this study. However, the impact of interactions on relevance criteria and whether interactions can even be considered relevance criteria is an interesting potential area for future research.

In this study, discoverability, or the ease of finding a resource or information object, specifically an online video, appeared to play a significant role in determining its perceived relevance. Participants preferred videos that appeared higher in search results and relied on

features that allowed them to locate and assess resources quickly and effectively. Additionally, they emphasized that the content of the preview thumbnail was crucial in determining the relevance of a video. Discoverability came up 79 times during the interview portion, not always directly in relation to relevance criteria but it frequently had an impact on criteria. For example, one participant changed their emphasis on the criteria depth of information because finding the information they were looking for at the depth of information they desired proved to be too difficult. The relationship between discoverability of information and relevance criteria is another area for future research.

Finally, future studies of how relevance criteria and relevance are both applied by and influenced by algorithms and machine learning, and the impact of both on social discourse and the creation of information, is another area for future research. "Relevance is a–if not the–key notion in the information sciences in general and information retrieval in particular" (Saracevic, 2016, p. 140). Further, "as we have embraced computational tools as our primary media of expression and have made not just mathematics but all information digital, we are subjecting human discourse and knowledge to these procedural logics that undergird all computation. And there are specific implications when we use algorithms to select what is most relevant from a corpus of data composed of traces of our activities, preferences, and expressions" (Gillespie, 2014, p. 168).

The impact of relevance in information retrieval systems is no longer as simple as whether useful documents are returned for a query. Computer-defined relevance predicts subjectivity, mostly invisibly and without transparency. Now, more than ever, predictive relevance determines the discourse and is also a key "notion" not only in content retrieval but in content creation, especially as content is being created by machine-learning AI (Artificial

Intelligence) interfaces like ChatGPT. Machine learning and interfaces like ChatGPT will change

both how information is discovered, how it is evaluated, and how it is created. As Bill Gates

recently said in an interview, these technologies are predicted to be as impactful "the invention

of the Internet" (More, 2023) Understanding relevance, which is at its core subjective and

defined by each information user uniquely, is more important than ever in response to these

changes. As the lines between information retrieval and information creation are blurred by these

technologies, understanding user relevance will be key to interpreting, evaluating, and applying

information.

<div align="center">Significance of Study</div>

The findings of this study contribute both theoretically and practically to the field of

information science by exploring the concept of relevance. By analyzing the relevance criteria of

online videos, this study sheds light on one of the fundamental principles of information

behavior. In doing so, it expands the definition of relevance and advances the field of

information science toward developing a theory of relevance. Furthermore, this study has

practical implications for the design of information retrieval systems in fields such as human-

computer interaction and computer science. By examining user interactions with online videos, it

is possible to identify specific behaviors that influence relevance judgments and address

problematic outcomes. This knowledge can be used to improve the design of online video

platforms and the methodology employed can be used to continue studying relevance.

Moreover, understanding how people evaluate the relevance of online videos has

implications for various fields beyond the field of information science including education,

political science, media and communication studies, and journalism. The study highlights the

fact that people often base their relevance assessments on invisible features of information

<div align="center">144</div>

retrieval systems. Given the potential for information manipulation through social media, propaganda, and news outlets, identifying relevance criteria for online videos can help people evaluate information more effectively and critically. This understanding of relevance can be useful to educators, librarians, and others who work to help people navigate information in a meaningful way.

Conclusion

Relevance is a core concept in information science and a term commonly used in everyday language to describe the usefulness of information. However, despite its importance, relevance lacks a consistent definition and has not been adequately explored in the literature of information science. To understand relevance, it is useful to identify the criteria that individuals use when assessing whether information is relevant. This is especially important for newer information formats such as online video because as these formats are becoming increasingly prevalent user-oriented relevance judgments of video and other multimedia formats have been studied even less than relevance judgments of text-based information. Through a combination of several research methods and techniques of analysis this study identified relevance criteria of online video used for informational purposes and situated those criteria within a larger framework of criteria identified through previous related user studies. Additionally, this study identified a connection between interactions and online video relevance criteria.

This study investigated the relevance criteria used by frequent online video users, including students, faculty, librarians, and video professionals. By using a mixed-methods approach that included an online survey and interviews, the study identified 32 relevance criteria that individuals employ when assessing the relevance of online video. This knowledge is useful for the development of information retrieval platforms that support online video and the design

of user interfaces that enable users to access and assess online video more effectively. Moreover, understanding relevance and identifying relevance criteria is necessary for information literacy in today's world, where the quality and reliability of information have become a vital concern. This knowledge is critical for individuals to develop information literacy skills that enable them to evaluate information effectively and make informed decisions.

The study also investigated whether user interactions impact relevance judgments made while assessing online videos for informational purposes and found that interactions do impact relevance judgments, and in some cases, that interactions are considered relevance criteria. Two interactions were identified as relevance criteria: browsing through the content of a video by either fast-forwarding in the video player or by scrolling through key moments in the video preview, and whether an online video was "sharable" via social media, email, newsletters, etc. Interactions appear to play a crucial role in relevance judgments because they allow individuals to directly assess the relevance of a given item in relation to their needs or interests. As information formats become increasingly interactive it will be increasingly important to understand the role that user interactions have in relevance judgments. This should shape both the design of information platforms and education related to information literacy.

The results of this study indicate that relevance judgments and specific relevance criteria are subjective, situational, dynamic, and impacted by features of the systems used to access information. Information users in this study appeared to assess the relevance online video both explicitly and implicitly, sometimes without seeming to be consciously making relevance judgments. The results of this study are valuable for the significant and important task of formulating a conceptual framework and theory of relevance within the field of information science. In addition to confirming prior research, these findings offer essential new perspectives

to support this crucial undertaking.

In conclusion, identifying relevance criteria is a crucial step towards understanding relevance, improving information retrieval platforms, and developing essential information literacy skills. This study provides insight into how users of online video make relevance judgments and which criteria they employ to assess relevance of online video for informational purposes.

APPENDIX A

SURVEY INSTRUMENT

Questionnaire

During the past 12 months have you watched a video on DVD or VHS?

○ Yes

○ No

During the past 12 months have you watched a video online?

○ Yes

○ No

For the purposes of this study, we are using 'physical format' to mean a version of a video that exists on a physical format such as a DVD, VHS, film strip, etc.

During the past month, about how many times have you searched for videos to watch via a physical format (DVD, VHS, film)?

_____

During the past month about how many videos have you watched via a physical format (DVD, VHS, film)?

_____

Thinking about the physical format videos (DVDs, VHS, etc.) you have watched in the last 12 months how much did you. . .

	Daily or Almost Daily	A Few Times a Week	At Least a Couple of Times a Month	Once a Month or Less	Never
Watch videos on a physical format for fun or entertainment?	○	○	○	○	○
Watch videos on a physical format to learn how to do something new?	○	○	○	○	○
Watch videos on a physical format for work requirements?	○	○	○	○	○

Watch videos on a physical format to keep up with current events or news?	◯	◯	◯	◯	◯
Watch videos on a physical format to research a topic that is interesting to you?	◯	◯	◯	◯	◯

For the purposes of this study, we are using 'online video' to mean a version of a video that can be found on the Internet via a computer, laptop, tablet, smart phone, or other device.

During the past month, about how many times have you searched for online videos?

_____

During the past month, about how many online videos have you watched?

_____

Thinking about the online videos you have watched in the last month how often did you. . .

	Daily or almost daily	A Few Times a Week	At Least a Couple of Times a Month	Once a Month or Less	Never
Watch online videos for fun or entertainment?	◯	◯	◯	◯	◯
Watch online video to watch in order to learn how to do something new.	◯	◯	◯	◯	◯
Watch online videos for work requirements?	◯	◯	◯	◯	◯
Watch online videos to keep up with current events or news?	◯	◯	◯	◯	◯
Watch online videos to research topics that is interesting to you?	◯	◯	◯	◯	◯

What do you use to search for online video? (Choose all that apply)

150

- [ ] YouTube

- [ ] Online video platforms other than YouTube

- [ ] Email Listservs

- [ ] Subscription resources (e.g., Netflix, Hulu, Amazon Prime, DirectTV, SlingTV, etc.)

- [ ] Library or academic resources

- [ ] Social Media

- [ ] Catalogs or Magazines

- [ ] Google search engine

- [ ] Search engine other than Google

- [ ] Other (please specify)

What do you use **most** to search for online video? (Choose one)

- ○ YouTube

- ○ Online video platforms other than YouTube (please specify)

- ○ Email Listservs (please specify)

- ○ Subscription resources (e.g., Netflix, Hulu, Amazon Prime, DirectTV, SlingTV, etc.)

- ○ Library or academic resources (please specify)

- ○ Social Media (please specify)

○ Catalogs or Magazines (please specify)

○ Search engine (please specify)

○ Other (please specify)

To what extent do you agree or disagree with the following statements:

	Strongly disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Not applicable
Finding online video to watch for fun or entertainment is difficult.	○	○	○	○	○	○
Finding online video to watch in order to learn how to do something new is difficult.	○	○	○	○	○	○
Finding online video to watch for work requirements is difficult.	○	○	○	○	○	○
Finding online video to watch in order to keep up with current events or news is difficult.	○	○	○	○	○	○
Finding online video for researching topics that are interesting to you is difficult.	○	○	○	○	○	○

Think about a time when you were looking for a video to watch for entertainment. Which of the following are *most likely* to help you decide whether or not to watch an *online video* for fun or entertainment? (Choose up to 5)

- [ ] The appearance of the video player

- [ ] The appearance of the website the video is on

- [ ] Knowing the identity and quality of the director before viewing

- [ ] Knowing the identity and quality of the screenwriter before viewing

- [ ] How familiar you are with the people shown in the video

- [ ] The quality of the audio content

- [ ] The quality of the visual content

- [ ] What the video is about

- [ ] How accurate the information in the video appears to be

- [ ] What language that the video was recorded in

- [ ] Whether or not the video has closed captions

- [ ] Where the video was filmed

- [ ] How recent the video is

- [ ] How much it costs to view the video

- [ ] Suggestions from family, friends, coworkers, or acquaintances

- [ ] User reviews or ratings

- [ ] Reviews published on other websites

- [ ] Reviews published in newspapers or magazines

- [ ] Reading or skimming the transcript

☐ Scrubbing through the video

☐ Whether or not the video is copyrighted

☐ How long the video is

☐ Other (please specify)

_____

Think about a time when you wanted to find an online video so that you could learn a new skill (e.g., cooking, styling a paper, building something). Which of the following are you *most likely* to use to decide whether or not to watch an *online video* in order to learn how to do something new? (Choose up to 5)

☐ The appearance of the video player

☐ The appearance of the website the video is on

☐ Knowing the identity and quality of the director before viewing

☐ Knowing the identity and quality of the screenwriter before viewing

☐ How familiar you are with the people shown in the video

☐ The quality of the audio content

☐ The quality of the visual content

☐ What the video is about

☐ How accurate the information in the video appears to be

☐ What language that the video was recorded in

☐ Whether or not the video has closed captions

☐ Where the video was filmed

☐ How recent the video is

☐ How much it costs to view the video

☐ Suggestions from family, friends, coworkers, or acquaintances

☐ User reviews or ratings

☐ Reviews published on other websites

☐ Reviews published in newspapers or magazines

☐ Reading or skimming the transcript

☐ Scrubbing through the video

☐ Whether or not the video is copyrighted

☐ How long the video is

☐ Other (please specify)

_____

Think about a time when you wanted to find an online video about something on the news or a current event. Which of the following are *most likely* to help you decide whether or not to watch an *online video* in order to learn about news or current events? (Choose up to 5)

☐ The appearance of the video player

☐ The appearance of the website the video is on

☐ Knowing the identity and quality of the director before viewing

☐ Knowing the identity and quality of the screenwriter before viewing

☐ How familiar you are with the people shown in the video

☐ The quality of the audio content

☐ The quality of the visual content

☐ What the video is about

- [ ] How accurate the information in the video appears to be

- [ ] What language that the video was recorded in

- [ ] Whether or not the video has closed captions

- [ ] Where the video was filmed

- [ ] How recent the video is

- [ ] How much it costs to view the video

- [ ] Suggestions from family, friends, coworkers, or acquaintances

- [ ] User reviews or ratings

- [ ] Reviews published on other websites

- [ ] Reviews published in newspapers or magazines

- [ ] Reading or skimming the transcript

- [ ] Scrubbing through the video

- [ ] Whether or not the video is copyrighted

- [ ] How long the video is

- [ ] Other (please specify)

_____

Which of the following are *most likely* to help you decide whether or not to watch an *online video* in order to learn about or research a topic that is interesting to you? (Choose up to 5)

- [ ] The appearance of the video player

- [ ] The appearance of the website the video is on

- [ ] Knowing the identity and quality of the director before viewing

- [ ] Knowing the identity and quality of the screenwriter before viewing

- [ ] How familiar you are with the people shown in the video

- [ ] The quality of the audio content

- [ ] The quality of the visual content

- [ ] What the video is about

- [ ] How accurate the information in the video appears to be

- [ ] What language that the video was recorded in

- [ ] Whether or not the video has closed captions

- [ ] Where the video was filmed

- [ ] How recent the video is

- [ ] How much it costs to view the video

- [ ] Suggestions from family, friends, coworkers, or acquaintances

- [ ] User reviews or ratings

- [ ] Reviews published on other websites

- [ ] Reviews published in newspapers or magazines

- [ ] Reading or skimming the transcript

- [ ] Scrubbing through the video

- [ ] Whether or not the video is copyrighted

- [ ] How long the video is

- [ ] Other (please specify)

Think about the last time you watched a video in order to learn something new. What was the video? Where did you find it? How did you decide to watch it?

_____

If you could choose to learn about a topic by either reading or watching a video, which would you choose? Why?

_____

Think about the last time you searched for an online video in order to learn about something (either how to do something or to research a topic). What, if any, difficulties did you experience when you were looking for a video?

_____

The second phase of this study will involve completing a few search tasks online and explaining how you search for and select online video. You can participate remotely, and it will take less than an hour of your time. Your participation would be much appreciated! If you are willing to be considered for this, please enter your name, institution of affiliation, email address and phone number:

_____

APPENDIX B

SURVEY QUESTION CODEBOOK

Criteria	Definitions	Examples from Responses
Accuracy	Respondent stated that their last decision to watch a video in order to learn something new was based on the content of the video being accurate.	"Accuracy."
Audio quality	Respondent stated that their last decision to watch a video in order to learn something new was based on how the audio being good.	"the audio [and video] quality." "clear audio"
Availability	Respondent stated that their last decision to watch a video in order to learn something new was based on having access to the video.	"because it was offered […] for free."
Awards	Respondent stated that their last decision to watch a video in order to learn something new was based on the video having received awards or recognition.	"Full Frame Festival winner" "Learned about it via the ALA FMRT's annual Notable Videos for Adults."
Content quality	Respondent stated that their last decision to watch a video in order to learn something new was based on the quality of the content of the video.	"Based on content." "Food looked good." "High quality content."
Creator	Respondent stated that their last decision to watch a video in order to learn something new was based on the creator of the video. The creator is different than the publisher, being the person who made the video whereas the publisher is an organization that makes the video available, but it is not apparent that they created it.	"The mechanic seemed authoritative. He actually turned out to be." "The creators of the content/presenters are renowned sand volleyball players." "from a girl who has made other good videos before." "It was by my professor."
Recency	Respondent stated that their last decision to watch a video in order to learn something new was based on the video being recent.	"It was fairly recent." "the video that […] is most recent"
Descriptive text	Respondent stated that their last decision to watch a video in order to learn something new was based on reading a description of the video.	"The title seemed interesting." "The caption interested me." "Keywords."
Length	Respondent stated that their last decision to watch a video in order to learn something new was based on how long the video was (either long enough or short enough).	"it wasn't too long." "It was short." "It was long so I thought that it would have a lot of detail."
Player functionality	Respondent stated that their last decision to watch a video in order to learn something new was based on being able to engage in a specific interaction via the video player.	"I could scrub with thumbnail view straight to the part that I needed without watching the whole video."
Popularity	Respondent stated that their last decision to watch a video in order to learn something new was based on the popularity of the video.	"high rating & high views." "How many views it had persuaded me to watch it."
Presentation quality	Respondent stated that their last decision to watch a video in order to learn something new was based on how clearly or well information was presented in the video.	"Clarity of presentation." "How topic was introduced and how he taught it."
Publisher	Respondent stated that their last decision to watch a video in order to learn something new was based on the expertise of the entity that published the video.	"chose it because I was familiar with the host website." "I decided to watch it because it was by a known entity like a magazine or cooking channel." "Chose it because it was published by a university library (so-experts)."
Quality (unspecified)	Respondent stated that their last decision to watch a video in order to learn something new was based on "the quality" of the video but did not specify what qualities of the video they were referring to.	"Looked high quality" "The quality was nice." "It looked helpful and good quality."
Recommendation	Respondent stated that their last decision to watch a video in order to learn something new was based on recommendations from friends, colleagues, or another source.	"sent to me by a colleague, watched because they were recommended" "because my friend told me about it."
Reviews	Respondent stated that their last decision to watch a video in order to learn something new was based on reading reviews or comments about the video.	"It has good reviews by women interested in the same things as me." "I looked at the reviews to see if it actually was worth watching."
Search result (top)	Respondent stated that their last decision to watch a video in order to learn something new was based on how high up the video appeared in a search results list.	"Googled…picked first result." "I found it via Google and watched it as it was one of the first search results listed." "I found it on YouTube and was at the top of my recommendations when I searched my issue."
Topical relevance	Respondent stated that their last decision to watch a video in order to learn something new was based on the subject matter of the video fulfilling their information need.	"She had my hair texture." "I picked it based on how relevant the topic was to the field I want to go into." "Met my topic requirements."
Video quality	Respondent stated that their last decision to watch a video in order to learn something new was based on the quality of the appearance of the video.	"The video quality looked good." "I decided it because the video quality looked good…"

APPENDIX C

INTERVIEW PROTOCOL

I am going to start recording in just a moment. During the interview I might take a few notes and I will be mostly reading from a script so there might be a delay or two. [Ensure that Video Release Form and Informed Consent Form have been signed].

[Start Recording]
In this study I am looking at relevance criteria that people use to select online video for informational purposes. Relevance criteria are essentially any criteria you use to choose an online video–these can be the title, the description, the content of the video, how a video player works, the length of a video, etc.

During the interview I am going to ask you a few questions related to how you search for online video and how you decide which online videos to watch.

Then I am going to ask you to complete two searches for online videos that give you information about something you want to know about. As you search for video, I will ask you to share your screen and to think out loud about what you are doing. I am especially interested in how you decide which video to watch. Once you have found a video that you feel fulfills your information need, I will ask a few follow-up questions. The interview, including searching for online video, should take around 60 minutes.

- How many times per week would you estimate you look for and watch online video to learn about something? Reasons for looking for online video to learn something could be professional or personal.

- What platforms or sources do you use to look for and watch online video for informational purposes? [If several are mentioned ask which they use most frequently]

- Thinking specifically about using online video to learn something for either personal or professional reasons. . .

  o Can you give me some examples of what you try to learn by watching online video?

  o How do you decide which videos to watch for those reasons?

  o What are the biggest challenges you face when trying to find an online video for those reasons?

Part of this interview will involve you sharing your computer screen while you search for online video. I would like to emphasize that the recording of this screen share will be kept completely confidential but if you would like to take a few moments to close windows, clear your history/cache, or otherwise prepare please go ahead and do so now.

At this point I am going to ask you to open a browser window and then share your screen. *[Participant shares screen]*

Now I am going to ask you to think of an information need that you have and try to find an online video that will fulfill that need.

An information need is a situation in which you have an interest or need to know more about something. Can you think of an information need that you have, either something that you are interested in knowing more about or something that you need to learn about. These can be research or skill related.
[If respondent can think of an information need ask them what it is. If not, continue to information need prompts].
- IF they have information needs:
  o What are you hoping to learn?
  o What would you like to know about _____?
  o Any specific kind of videos are you going to look for?
  o Any specific kinds of video you hope or expect to avoid using?

IN JUST A MOMENT I am going to ask you to try to find an online video that will fulfill your information need using any source at your disposal. Please think out loud as you do this. I might prompt you to think out loud or ask questions to clarify what you are doing during this process. Take your time in choosing and try to complete the search as you normally would even though I realize that telling me about what you are doing as you are doing it might feel awkward. I am not judging how you search or what you are looking for, just interested in how you decide which videos to watch.
So go ahead and please let me know when you've found a video that fulfills your information need.
[After participant has found a video that fulfills their information need]
- Think about how you decided which videos were ideal. What specific features of the video or online video platform helped you select the video that fulfilled your information need? Please be as specific as possible.
  o Why did you choose to watch the first/second/third video?
  o What did you like the most about the video you selected?
  o Did anything bother you about the video you selected?
  o Why did you choose to quit watching the second video/other videos?
  o As you were watching the video what made you continue?
  o What made you decide to change your search terms?
- Think about the interactions you made while searching for and watching the video. Interactions can include anything you did using the keyboard or mouse. Examples might be using your mouse or touchpad or using your keyboard. Were there any interactions that you made that impacted how you decided which video was the one you wanted?
- Overall, do you feel that you found a video that gives you the information you were looking for?
- If this were a real search, would you continue looking for more videos or other types of content? Why or why not?
- What did you find the most challenging about finding online video in this case?

Now I am going to ask you to think of another information need that you have and try to find an online video that will fulfill that need. Can you think of something else that you would like to learn about by watching a video?
[If respondent can think of an information need ask them what it is. If not, continue to information need prompts].
- IF they have information needs:
  - What are you hoping to learn?
  - What would you like to know about ____?
  - Any specific kind of videos are you going to look for?
  - Any specific kinds of video you hope or expect to avoid using?

As you look for another video, please continue to think out loud as you do this and take your time in choosing and video and try to complete the search as you normally would.
So go ahead and please let me know when you've found a video that sufficiently fulfills your information need.
[After participant has found a video that fulfills their information need]
- Think about how you decided which videos were ideal. What specific features of the video or online video platform helped you select the video that fulfilled your information need? Please be as specific as possible.
  - Why did you choose to watch the first/second/third video?
  - What did you like the most about the video you selected?
  - Did anything bother you about the video you selected?
  - Why did you choose to quit watching the second video/other videos?
  - As you were watching the video what made you continue?
  - What made you decide to change your search terms?
- Think about the interactions you made while searching for and watching the video. Interactions can include anything you did using the keyboard or mouse. Examples might be scrolling with your mouse, hitting specific keys on the keyboard, using the back button on a browser, using specific features of the video player, etc.). Were there any interactions that you made that impacted how you decided which video was the one you wanted?
- Overall, do you feel that you found a video that gives you the information you were looking for?
- If this were a real search, would you continue looking for more videos or other types of content? Why or why not?
- What did you find the most challenging about finding online video in this case?

You can now stop sharing your screen.

Now I'm going to go through a list of relevance criteria that have been identified in other studies. For each of these items please think about whether or not you considered this when choosing either of those videos.
1. Whether or not the information in the video was accurate
2. Whether or not the information in the video was current
3. How specific the information in the video was
4. Whether or not the creator or presenter of the video is reliable

5. How accessible the video was
6. How clearly the information in the video was presented
7. How much you were able to interact with the video
8. The quality of the presentation
9. The quality of either the video or the audio
10. How much it cost to watch the video
11. What language the video was in
12. How long the video was
13. Did you consider how useful the information in the video was
14. Where the video was made
15. Who was in the video (what they looked like, how they talked, etc.)
16. The copyright status of the video
17. How many awards the video had
18. Do you think you were impacted by how high the video was in the search results
19. Do you think you were impacted by how popular the video appears
20. Did you consider any recommendations or reviews written about the video
21. Did you think about whether the video was biased
22. Did you consider the apparent audience of the video is
23. Did how recently the video was released impact your choice
24. Did you think about who published or distributed the video

Thank you so much for your time participating in this interview. I would like to say again that the recording of the interview will be kept completely confidential.

For your participation you receive an Amazon Kindle Fire. Please put your shipping address in the comments. I would appreciate an email from you once you have received it and will follow up to make sure you received it.

Stop recording.

APPENDIX D

INTERVIEW CODEBOOK

Relevance Criteria	Definition	Examples
Accessibility	Participant mentioned that how easily they could access a video, either because of assistive attributes such as closed captions or other reasons such as the number of steps required to get to a video, was a consideration for them as they determined whether an online video was relevant for informational purposes.	"that it was like two really easy clicks to get the video to play was helpful" - "No, it wants me to download stuff and all that baloney so we're not doing that" - "they do have the closed captions" - "I just clicked on the closed captions so I could potentially hear this subject a little bit better"
Affective Preference	Participant mentioned that there are general characteristics about a video that elicit feelings, or relate to a personal preference, that are a consideration for them as they searched for online video for informational purposes.	"I think with this video here, I'm looking at the thumbnail and just kind of like turned off by it" - "I'm not really, I'm not interested in hearing someone's story" - "here I'm not looking at the URL first, I'm looking at the title because it's what appeals to me and I don't care where I get it from as long as it sounds delicious" - "It looks like a lot of these, the primary way to make these cakes is using an ingredient that I don't like to use"
Audience	Participant mentioned that who a video appeared to be intended for was a consideration for them as they searched for online video for informational purposes.	"On the one hand it looks like it could be good but I'm also thinking like oh, this is something for teachers to use in class" - "Who is your film for?" - "Is this for tourists?" - "a production for school children"
Availability	Participant mentioned that whether an online video was available was a consideration for them as they searched for online video for informational purposes.	"there's images here which is kind of cool and I'm just like looking at the images and getting a better idea of this, but I'm not actually finding a video which is surprising" - "Where is the film available?" - "... still doing a free search and everything and still only 464 results. More folks need to make good documentaries that are available to us." - "I'm not sure since this one is in Canada. I'm not sure if they have distribution licenses for the U.S."
Bias	Participant mentioned whether the source of a video or content of a video was biased was a consideration for them as they determined whether an online video was relevant for informational purposes.	"I would avoid videos from very biased sources that are trying to lean you one way or the other without a lot of research to back up their opinions or what they're presenting"
Channel	Participant mentioned that the channel a video was on was a consideration for them as they determined whether an online video was relevant for informational purposes. In both cases the participants were referring to YouTube channels, not television or other channels.	"because of the name of this channel I'm assuming this is going to be something along those lines" - "sounds like it's on a channel that covers different tribes. So, I might click on the name of the channel"
Commercialism	Participant mentioned that whether a video was a direct or indirect advertisement, or whether it contained advertisements, was a consideration for them as they searched for online video for informational purposes.	"I don't want a sales thing, that's my problem is that almost everything here is." - "Glossing over the ads at the top" - "I just thought I didn't want something where somebody's trying to sell me something, but I'm going to actually watch this Home Depot video" - "passed all the ads"
Copyright	Participant mentioned that whether the content of a video is in the public domain was a consideration for them as they determined whether an online video was relevant for informational purposes.	"public domain, that's the other thing I'm going to be looking at"
Cost	Participant mentioned that the monetary cost of accessing a video was a consideration for them as they determined whether an online video was relevant for informational purposes.	"this is behind a paywall" - "because I really want the library to pay for the things and not ask our students to pay for the things" - "there was a Vimeo link and a YouTube link so maybe they could access it if they wanted to pay for it but again, I don't want them to pay for it"
Creator	Participant mentioned that a person or group of people who created, recorded, or posted a video and they presumed to be the creator were a consideration for them as they searched for online video for informational purposes. Specific qualities mentioned in relation to creator include credibility, authority, representationality, popularity/influentialness, or familiarity.	"Looking at the authors" - "I want a YouTuber who's... thinking about traditional homes" - "it's from a chef" - "looking at if I can quickly tell who the author is" - This one sounds interesting... student work... I might come back to that" - "let's just see if I can learn more from the about section about authorship"
Credibility	Participant mentioned that credibility was a consideration for them as they determined whether an online video was relevant for informational purposes. *Only code if credibility is specifically and explicitly mentioned (do not assume).*	"I feel like it's pretty trustworthy" - "I'm just trying to assess how much do I, you know, trust the source for these" - "credentials of the person who posted it" - "coming from a trusted source" - "that would be more what I would be interested in is...you know, she's citing research and giving specifics"
Depth of Information	Participant mentioned that how detailed a video was, or whether information in a video was too narrow, too broad, too introductory, too much of or not enough of an overview was a consideration for them as they searched for online video for informational purposes.	"They would get in the weeds about issues around measurement" - "they're going to give some, like, contextual information" - "it's just giving me a year snapshot" - "feels like it's maybe too introductory" - "too broad of a topic"
Expertise	Participant mentioned that their own level of experience or knowledge of a subject fitting with the apparent expertise level of a video was a consideration for them as they determined whether an online video was relevant for informational purposes.	"I think it's just my lack of knowledge of some of these words is going to be an issue at this stage." - "without having deeper subject knowledge and names of any individuals or locales. I would probably stop here" - "And the question itself, like what is the funniest thing you've ever seen? It's definitely not at her level"

167

Relevance Criteria	Definition	Examples
Genre	Participant mentioned that genre or type of video was a consideration for them as they determined whether an online video was relevant for informational purposes.	"it is a documentary" - "what is this? Is this. . . a travel documentary?"–"It's a travel vlog. I would not watch this." - "that's a music video"
Interactions	Participant mentioned that a specific interaction was necessary to being able to consider the relevance of a video for informational purposes. *Only coded if the participant directly says that the interaction was a reason they watched or selected a video.*	"by clicking through to kind of get to the meat of the video, that was how I made my decision of like, OK, I actually want to go back and watch this." - "looking for a clip that I might be able to share with somebody" - "if they took away my ability to Fast forward, would I have slogged through it? In this case, probably because like, look at it, look at it is like so perfect. In other cases that would have been…that might be a deal breaker and I might walk away."
Language	Participant mentioned that the language a video was in was a consideration for them as they as they determined whether an online video was relevant for informational purposes.	"The language it's it had some I believe that was kanji characters in Japanese. So, you know this, this may not be the video that I would use when I would set about actually making"
Length	Participant mentioned that how long a video was (runtime) was a consideration for them as they searched for online video for informational purposes.	"It's an hour and 25 minutes and that seems like a solid enough intro to sort of hit on various aspects of Endnote" - "I will also look at the duration. Because short is good. But I'm also skeptical about can I actually learn this in 3 minutes and 13 seconds" - "check the length" - "the longer piece was meeting my expectation"
Person/People in Video	Participant mentioned that the people in the video appear, act, or have characteristics that were a consideration for them as they searched for online video for informational purposes. Those characteristics included apparent authority, physical characteristics, familiarity, and representation.	"She was too young" - "he seems to know what he's doing " - "it seems to be an energetic teacher talking about prompts" - "maybe somebody's voice is annoying or something so you decide to switch to somebody else"
Platform	Participant mentioned that the platform on which a video was hosted was a consideration for them as they as they determined whether an online video was relevant for informational purposes.	"I was a little disappointed to find that everything is a YouTube video" - "If I were at home and I had my TV in front of me then I would just use our public library's Kanopy subscription and I would just stop there" - "that's a bunch of, I don't even know what that is. . . Twitter. And that is not…I mean, Twitter could be good if I wanted, I guess…no, it wouldn't help me" - "it's a Facebook video"
Popularity	Participant mentioned that how many views a video had received, or how positive the comments about a video were, were a consideration for them as they searched for online video where a consideration for them as they as they determined whether an online video was relevant for informational purposes.	"If enough people are asking about it and he has that kind of a group of followers then it's probably going to be a solid video" - "I like to look at the comments a little bit. You can tell a lot by what people are saying about it' - "there's a lot of comments. So sometimes that's helpful, especially when it comes to these types of videos. For how-tos you can often find a lot of information in the comments that will help you tweak and adjust or get a quick sense of what people think of the video. So, it does look as though there's a lot of positive commentary there."
Presentation Style	Participant mentioned that the way that information was presented in a video was a consideration for them as they searched for online video for informational purposes.	"This one looks very instructional for whatever reason" - "I think it's a little bit goofy, like the music and sort of the approach" - "He seems to be going through step by step" - "Seems like it's dated in its approach" - "I don't want to hear about who he is and please subscribe and all that"
Production Value	Participant mentioned that the production value of a video was a consideration for them as they determined whether an online video was relevant for informational purposes.	"in the world of documentaries you don't need a cinematic experience to make a documentary that is highly worthwhile viewing" - "not as well produced or as well put together that i would be looking for" - "a little more produced" = this one has more of the production value I was hoping for"
Publisher	Participant mentioned that what organization, publication, or type of institution was responsible for making the video available was a consideration for them as they searched for online video for informational purposes. This is different than considering the platform (such as YouTube) because many organizations publish on platforms other than their own (e.g. government organization may publish on YouTube).	"This is a student newspaper. . . " - "I'm seeing this BBC thing" - "Plastichead, that's a distributor in the UK" - "I'm really curious about this Trinidad and Tobago Archive" - "there is really just one source at this point, which is Public School Review, and I'm not super familiar with that so let me just pop in and check their. . . see if I can find out more information on them."
Quality (Video or Audio)	Participant mentioned that either the video quality or audio quality was a consideration for them as they searched for online video for informational purposes.	"The quality looks good" - "it's a little soft but it looks like it's been cleaned up" - "great transfer" - "that looks a little grainy" - "this video, holy moly, it's super shaky" - "this particular video is driving me crazy with how it's bopping around all over the place. . . but I know that would stop once I actually click on it"
Recency	Participant mentioned that how recently a video was made was a consideration for them as they searched for online video for informational purposes.	"I tend to prefer stuff that's more recent" - "it's from 2017" - I'm interested in whether this is something done for this year and this is a new one, 22-23 for the year" - "noticing on the dates on these that this isn't such a new thing"
Related Media	Participant mentioned that related media was a consideration for them as they as they determined whether an online video was relevant for informational purposes.	"Oh, this is pretty cool because it also has this podcast episode"
Search Rank	Participant mentioned that how high a video was in the search results list was a consideration for them as they determined whether an online video was relevant for informational purposes.	"Actually, so I do this whole performance of looking through all of them, and I do this for myself. So, like I skim the first page and then I almost invariably go to the very first one at the top of the page, which I know is silly, but that's what I do" "normally I would just click the first one that I see" "If I'm looking for something in the first page, looks like I'm way,

Relevance Criteria	Definition	Examples
		way, way off base then I usually won't go down to a second or third page. I mean, if I'm, I'm going to keep changing my search parameters and if I'm not getting anything no matter what combination I use then I might kind of start repeating and go back and go through to additional pages. But usually you start doing that and then you just get into very irrelevant things and so I usually don't do that"
Topicality	Participant mentioned that the subject of an online video or what an online video is about was a consideration for them as they searched for online video for informational purposes. Often referenced by participants as the video being useful or having information that is specific to the interests of the participant (e.g., model of a lawnmower, year a movie was published, geographic focus on video is local, etc.). Sometimes expressed negatively as being about something that is not of interest.	"All good information to have."; "at this point I'd probably stop because it's talking too much about like what makes them profitable and the actual kind of business, or like the production of a horror film. . . "; "[description] said specifically Northwest New Jersey Beekeepers Association, which is right around the corner from me"; "trying to figure out what year because this is very date based so I may have guessed the wrong year of my car and that might make a difference"; "'Why do teens use drugs?' Reasons teens use drugs.' . . That's not really what I'm looking for, so I would disregard those"
Usefulness of Preview Thumbnail	Participant mentioned specifically that content in the preview thumbnail made it possible for them to consider whether a video was relevant for informational purposes.	"the preview thumbnail does influence what I'm interested in" - "the title of this video was…almost had me pass on it, I'm like, oh, is this like a a parody horror movie? But it actually sounds like it's a…report so this is one example I think where the thumbnail got me." - "And a little bit at the preview [hovering over video thumbnails to watch previews] to show me if it's gonna really show me what I want"
Video Content	Participant mentioned that specific information or details contained within a video, such as a demonstration, whether the contents of a video were complete, or whether the information format of the video was what they needed), was a consideration for them as they searched for online video for informational purposes.	"I feel like it's sort of complete" - "this beehive is in the middle of the driveway, which is not where beehives are supposed to be. But I'm sure that's just for demo purposes" - "it's got the different color thread" - "I like that they have the title cards" - "a careful compilation of, you know, interviews and photos"

APPENDIX E

RELATED CRITERIA

Schamber (1991) identified 10 criteria grouped into three categories in a study of relevance criteria and multimedia.

- Information
  - Accuracy
  - Currency
  - Specificity
  - Geographic proximity
- Source
  - Reliability
  - Accessibility
  - Verifiability
- Presentation
  - Clarity
  - Dynamism
  - Presentation quality

Yang (2005) identified 36 criteria in a study of relevance criteria and video (mainly physical).

- Accessibility
- Accuracy
- Appropriateness
- Audience
- Author
- Availability
- Awards
- Cinematography
- Collection policy
- Content quality
- Copyright
- Date/recency
- Demands
- Distributor/vendor
- Emotion
- Format
- Genre
- Implicit AV criteria
- Interest
- Language/subtitles
- Literature
- Length
- Location
- Nationality
- Newly released
- Presentation
- Price
- Realness
- Review

- Scene-level information
- Sound
- Technical quality
- Topicality
- Unbiased
- Usefulness
- Version

Albassam & Ruthven (2018) identified 28 relevance criteria grouped into eight categories in their study of relevance criteria and video used for leisure on YouTube.
- Criteria related to the information content of the video
- Coverage
- Topicality
- Recency
- Genre
- Length
- People in the video
- Criteria related to the participants' previous experience and background
- Background/experience or personal memories
- Novelty
- Familiarity
- Criteria related to the participant's beliefs and preferences or their situation
- Affectiveness
- Serendipity/curiosity
- Habit
- Time constraint
- Criteria related to the quality aspects of the video or the source providing the video
- Quality of source
- Content quality
- Technical quality
- Criteria related to audio/visual features of the video
- Cinematography
- Visual appeal
- Sound/voice
- Criteria related to the accessibility of the video
- Cost
- Language
- Version
- Criteria related to other information within the environment
- Availability
- Verification
- Unusualness
- Criteria related to other people's opinions or YouTube's recommendations
- Rank order
- Popularity
- Recommended video

APPENDIX F

ONLINE VIDEO INTERACTIONS

New Search	Enter term for a concept; no other terms yet included in the search strategy
View Titles	No terms are entered; all the videos in the collection are retrieved
Add Concept	Add a concept that is not yet represented in the search strategy (using AND operator); include date or creation, genre, duration, color specification, concepts
Delete Concept	Delete a concept from the search strategy
Narrow Term	Replace a term with a narrower term for the same concept
Broaden Term	Replace a term with a broader term for the same concept
Replace Term	Replace a term with a sibling/cousin term (i.e., synonym or related term) for the same concept
Narrow Operator	Replace an operator with a narrower operator (e.g., OR AND)
Broaden Operator	Replace an operator with a broader operator (e.g., OR AND)
Display	Display the results or make modifications to the results page (e.g., sort, display more items per page)
Scrubbing Video	Scrub through video for preview
Correct	A correction in the search strategy (e.g., correction of spelling)
Query Customization	Advanced & fielded search choices
Categorical browse	Videos grouped by categories or topics
Filter (facets)	By date, source, alphabetical, etc.
Search effectiveness	Relevance rank
Browse - Scroll Titles (text)	Scroll list of results to browse
Browse - Keyframes/Carousel	Scroll still images from video
Read caption	Reading the caption to judge relevance
Read abstract/summary	Reading the abstract/summary to judge relevance
Read transcript	Reading the transcript to judge relevance
Watch video with sound	Play video to judge relevance: image & sound
Watch video with no sound	Play video to judge relevance: image only
Read Captions with no sound, minimal image	Skip through video reading captions no sound
Fast Forward	Move forward skipping parts of the video, preview others
Rewind	Move backward skipping parts of the video, preview others

REFERENCES

Akuma, S., Iqbal, R., Jayne, C., & Doctor, F. (2016). Comparative analysis of relevance feedback methods based on two user studies. *Computers in Human Behavior, 60*, 138-146. doi:10.1016/j.chb.2016.02.064

Albassam, S., & Ruthven, I. (2018). Users' relevance criteria for video in leisure contexts. *Journal of Documentation, 74*(1), 62-79. doi:10.1108/JD-06-2017-0081

Albertson, D. (2010). Influence of users' familiarity with visual search topics on interactive video digital libraries. *Journal of the American Society for Information Science, 61*, 2490-2502.

Albertson, D. (2013). An interaction and interface design framework for video digital libraries. *Journal of Documentation, 69*(5), 667-692. doi:10.1108/JD-12-2011-0056

Albertson, D. (2015). Visual information seeking. *Journal of the Association for Information Science and Technology, 66*(6), 1091-1105. doi:10.1002/asi.23244

Albertson, D., & Johnston, M. (2017). Not reinventing the "Reel:" Adaptation and evaluation of an existing model for digital video information seeking. *Proceedings of the Association for Information Science and Technology, 54*(1), 10-17. doi:10.1002/pra2.2017.14505401002

Albertson, D., & Ju, B. (2015). Design criteria for video digital libraries: Categories of important features emerging from users' responses. *Online Information Review, 39*(2), 214-228. doi:10.1108/OIR-10-2014-0251

Allen, B. (1996). Information tasks. *Information tasks: Toward a user-centered approach to information systems* (pp. 188-217) Emerald Group Publishing Limited. doi:10.1108/S1876-0562(1996)0000096008

Alpert, F., & Hodkinson, C. (2018). Video use in lecture classes: Current practices, student perceptions and preferences. *Education and Training,* doi:10.1108/ET-12-2017-0185

Anderson, R., & O'Connor, B. (2016). What makes a movie, *Paper presented at the Document Academy, 3*(1) Retrieved from https://ideaexchange.uakron.edu/docam/vol3/iss1/3/

Arslan, S., Zimmermann, R., & Kim, S. (2010). Relevance ranking in georeferenced video search. *Multimedia Systems, 16*(2), 105-125. doi:10.1007/s00530-009-0177-x

Balatsoukas, P., & Ruthven, I. (2012). An eye-tracking approach to the analysis of relevance judgments on the web: The case of google search engine. *Journal of the American Society for Information Science and Technology, 63*(9), 1728-1746. doi:10.1002/asi.22707

Barry, C. (1994). User-defined relevance criteria: An exploratory study. *Journal of the American Society for Information Science, 45*(3), 149-159. doi:AID-ASI5>3.0.CO;2-J

Barry, C., & Schamber, L. (1998). Users' criteria for relevance evaluation: A cross-situational comparison. *Information Processing and Management, 34*(2), 219-236. doi:10.1016/S0306-4573(97)00078-2

Belkin, N. J. (1980). Anomalous states of knowledge as a basis for information retrieval. The Canadian Journal of Information Science, 5, 133–143.

Bodoff, D. (2006). Relevance for browsing, relevance for searching. *Journal of the American Society for Information Science and Technology, 57*(1), 69-86. doi:10.1002/asi.20254

Boertjes, E., & Nijholt, A. (2007). Interaction. In H. Blanken, A. P. de Vries, H. E. Blok & L. Feng (Eds.), *Multimedia retrieval* (pp. 295-319). Berlin Heidelberg: Springer.

Borlund, P. (2003). The IIR evaluation model: A framework for evaluation of interactive information retrieval systems. *Information Research: An International Electronic Journal, 8*(3), 152.

Bruce, H. (1994). A cognitive view of the situational dynamism of user-centered relevance estimation. *Journal of the American Society for Information Science, 45*(3), 142-148. doi:AID-ASI4>3.0.CO;2-6

Carmichael, M., Reid, A., & Karpicke, J. (2018). A*ssessing the impact of educational video on student engagement, critical thinking and learning: The current state of play*. Thousand Oaks, CA: SAGE Publishing, Inc. Retrieved from http://learninglab.psych.purdue.edu/publications/

Chao, C., & Zhao, S. (2013). Emergence of movie stream challenges traditional DVD movie rental: An empirical study with a user focus. *International Journal of Business Administration, 4*(3), 22-29.

Choi, Y., & Rasmussen, E. (2002). Searching for images: The analysis of users' queries for image retrieval in American history. *Journal of the American Society for Information Science and Technology, 54*(6), 498-511. doi:10.1002/asi.10237

Christel, M. (2006). Evaluation and user studies with respect to video summarization and browsing. Paper presented at the *Multimedia Content Analysis, Management and Retrieval 2006, Proceedings of IS&T/SPIE Symposium on Electronic Imaging,* San Jose, CA.

Christel, M. (2007). Examining user interactions with video retrieval systems. Proceedings from *SPIE: Multimedia Content Access: Algorithms and Systems*; doi:10.1117/12.713383

Christel, M. (2009). Assessing the usability of video browsing and summarization techniques. In A. Divakaran (Ed.), *Multimedia content analysis: Theory and applications* (pp. 241-272). New York: Springer.

Cleverdon, C. (1967). The Cranfield tests on index language devices. Proceedings from *Aslib 19*(6), 173-194. doi:10.1108/eb050097

Cobârzan, C., Schoeffmann, K., Bailer, W., Hürst, W., Blažek, A., Lokoč, J., Vrochidis, S., Barthel, K. & Rossetto, L. (2017). Interactive video search tools: A detailed analysis of the video browser showdown 2015. *Multimedia Tools and Applications, 76*(4), 5539-5571. doi:10.1007/s11042-016-3661-2

Cool., C., Belkin, N., Frieder, O., & Kantor, P. (1993). Characteristics of texts affecting relevance judgments. *Proceedings of the 14th National Online Meeting,* 77-84. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.93.9372&rep=rep1&type=pdf

Creswell, J. (2014). *Research design: Qualitative, quantitative and mixed method* (4th ed.). Los Angeles, CA: Sage.

Creswell, J., & Clark, V. (2010). *Designing and conducting mixed methods research.* Los Angeles, CA: Sage Publications.

Cuadra, C., & Katter, R. (1967). Opening the black box of 'relevance.' *Journal of Documentation, 23*(4), 291-303. doi:10.1108/eb026436

DeWitt-Miller, E., & Wang, X. (2016). *Pilot study: online video interactions & usability.* Unpublished manuscript. University of North Texas.

Enser, P., & Sandom, C. (2003). Towards a comprehensive survey of the semantic gap in visual image retrieval. Paper presented at the *International Conference on Image and Video Retrieval,* 291-299.

Fidel, R., & Crandall, M. (1997). Users' perception of the performance of a filtering system. Paper presented at the *Sigir '97,* 198-205.

Foraker Labs. (2015). Usability first. Retrieved from www.usabilityfirst.com/glossary/ecological-validity/

Geisler, C., & Swarts, J. (2020). *Coding streams of language: Techniques for the systematic coding of text, talk, and other verbal data.* Denver, Colorado: University Press of Colorado. doi:10.37514/PRA-B.2019.0230

Gillespie, T. (2014). 167The relevance of algorithms. In T. Gillespie, P. J. Boczkowski & K. A. Foot (Eds.), *Media technologies: Essays on communication, materiality, and society* (pp. 0) The MIT Press. doi:10.7551/mitpress/9780262525374.003.0009

Greisdorf, H., & O'Connor, B. (2008). *Structures of image collections: From chauvet-pont-d'arc to flickr.* Westport, Conn.: Libraries Unlimited.

Greisdorf, H., & Spink, A. (2000). Recent relevance research: Implications for information professionals. *Online Information Review, 24*(5), 389-396. doi:10.1108/14684520010357356

Guo, P., Kim, J., & Rubin, R. (2014). How video production affects student engagement: An empirical study of MOOC videos. Paper presented at the *Proceedings of the First ACM Conference on Learning@ Scale Conference,* 41-50.

Halvey, M., Vallet, D., Hannah, D., & Jose, J. (2014). Supporting exploratory video retrieval tasks with grouping and recommendation. *Information Processing & Management, 50*(6), 876-898. doi://dx.doi.org/10.1016/j.ipm.2014.06.004

Hamid, R., Thom, J., & Iskandar, D. (2017). Effects of relevance criteria and subjective factors on web image searching behaviour. *Journal of Information Science, 43*(6), 786-800. doi:10.1177/0165551516666968

Harter, S. (1992). Psychological relevance and information science. *Journal of the American Society for Information Science, 43*(9), 602-615. doi:AID-ASI3>3.0.CO;2-Q

Hennink, M., & Kaiser, B. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Social Science & Medicine, 292, 114523. doi:https://doi.org/10.1016/j.socscimed.2021.114523

Hertzum, M. (2003). Requests for information from a film archive: A case study of multimedia retrieval. *Journal of Documentation, 59*(2), 168-186.

Hess, R., & Tenezakis, M. (1973). Selected findings from "the computer as a socializing agent: Some socioaffective outcomes of CAI." *AV Communication Review, 21*(3), 311-325. Retrieved from http://www.jstor.org/stable/30217742

Hjørland, B. (2001). Towards a theory of aboutness, subject, topicality, theme, domain, field, content…and relevance. *Journal of the American Society for Information Science and Technology, 52*(9), 774-778. doi:10.1002/asi.1131

Hjørland, B. (2010). The foundation of the concept of relevance. *Journal of the American Society for Information Science and Technology, 61*(2), 217-237. doi:10.1002/asi.21261

Horbal, A. (2018). Instructor use of educational streaming video resources. *The Journal of Academic Librarianship, 44*(2), 179-189. doi://doi.org/10.1016/j.acalib.2018.02.009

Housewright, R., Schonfeld, R., & Wulfson, K. (2013). *Ithaka S+R US faculty survey 2012.* ITHAKA. Retrieved from https://sr.ithaka.org/wp-content/uploads/2015/08/Ithaka_SR_US_Faculty_Survey_2012_FINAL.pdf

Howard, D. (1994). Pertinence as reflected in personal constructs. *Journal of the American Society for Information Science, 45*(3), 172-185. doi:AID-ASI7>3.0.CO;2-V

Huang, M., & Wang, H. (2004). The influence of document presentation order and number of documents judged on users' judgments of relevance. *Journal of the American Society for Information Science and Technology, 55*(11), 970-979. doi:10.1002/asi.20047

Hurst, W., Gotz, G., & Lauer, T. (2004). New methods for visual information seeking through video browsing. Paper presented at the *Information Visualisation, 2004. IV 2004. Proceedings. Eighth International Conference On,* 450-455. doi:10.1109/IV.2004.1320183

Ingwersen, P., & Järvelin, K. (2005). *The turn: Integration of information seeking and retrieval in context*. Dordrecht: Springer.

Inskip, C., MacFarlane, A., & Rafferty, P. (2010). Creative professional users' musical relevance criteria. *Journal of Information Science, 36*(4), 517-529. doi:10.1177/0165551510374006

Janes, J. (1991). Relevance judgments and the incremental presentation of document representations. *Information Processing and Management, 27*(6), 629-646. doi:10.1016/0306-4573(91)90004-6

James, L., & Vo, H. (2023). Encyclopedia of research design; pages 561-563. Thousand Oaks; Thousand Oaks, California: SAGE Publications, Inc. doi:10.4135/9781412961288 Retrieved from https://methods.sagepub.com/reference/encyc-of-research-design

Kaufman, P., & Mohan, J. (2009). *Video use and higher education: Options for the future.* (No. 2). New York, NY: Copyright Clearance Center. Retrieved from http://intelligenttelevision.com/files/42-intcccnyuvideo_and_higher_edjune_2009_2.pdf

Kay, R. (2012). Exploring the use of video podcasts in education: A comprehensive review of the literature. *Computers in Human Behavior, 28*(3), 820-831. doi:10.1016/j.chb.2012.01.011

Kirschner, P., Park, B., Malone, S., & Jarodzka, H. (2017). Toward a cognitive theory of multimedia assessment (CTMMA). In M. J. Spector, B. B. Lockee & M. D. Childress (Eds.), *Learning, design, and technology: An international compendium of theory, research, practice, and policy* (pp. 1-23). Cham: Springer International Publishing. doi:10.1007/978-3-319-17727-4_53-1 Retrieved from http://dspace.ou.nl/handle/1820/7958

Krathwohl, D. (2009). *Methods of educational and social science research* (Third ed.). Long Grove, Illinois: Waveland Press, Inc.

Krippendorff, K. (2013). *Content analysis* (3rd ed.) Sage Publications Inc.

Kuhlthau, C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science, 42*(5), 361-371. doi:AID-ASI6>3.0.CO;2-#

Lee, H., & Smeaton, A. (2002). Designing the user-interface for the Fischlar digital video library. *Journal of Digital Information, 4*(2)

Leonard, E. (2015). *Great expectations: Students and video in higher education.* Sage Publications. Retrieved from https://us.sagepub.com/sites/default/files/studentsandvideo_0.pdf

Li, J., Zhang, P., Song, D., & Wu, Y. (2017). Understanding an enriched multidimensional user relevance model by analyzing query logs. *Journal of the Association for Information Science and Technology, 68*(12), 2743-2754. doi:10.1002/asi.23868

Li, Y., & Belkin, N. (2010). An exploration of the relationships between work task and interactive information search behavior. *Journal of the American Society for Information Science and Technology, 61*(9), 1771-1789. doi:10.1002/asi.21359

Litwin, M. (1995). *How to measure survey reliability and validity.* Thousand Oaks, Calif.; London: Sage. Retrieved from http:// methods.sagepub.com/book/how-to-measure-survey-reliability -and-validity" target="_blank

Maglaughlin, K., & Sonnenwald, D. (2002). User perspectives on relevance criteria: A comparison among relevant, partially relevant, and not-relevant judgments. *Journal of the American Society for Information Science and Technology, 53*(5), 327-342. doi:10.1002/asi.10049

Marchionini, G., & Geisler, G. (2002). The open video digital library. *D-Lib Magazine, 8*(12).

Markkula, M., & Sormunen, E. (2006). Video needs at the different stages of television program making process. Paper presented at the *1st International Conference on Information Interaction in Context,* 111-118. doi:10.1145/1164820.1164844

Mayer, R. (2005). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 31-48). New York: Cambridge University Press.

Mayer, R. (2014). Multimedia instruction. In J. M. Spector, M. D. Merrill, J. Elen & M. J. Bishop (Eds.), *Handbook of research on educational communications and technology* (pp. 385-399). New York, NY: Springer New York. doi:10.1007/978-1-4614-3185-5_31

Mizzaro, S. (1997). Relevance: The whole history. *Journal of the American Society for Information Science, 48*(9), 810-832. doi:AID-ASI6>3.0.CO;2-U

Mizzaro, S. (1998). How many relevances in information retrieval? *Interacting with Computers, 10*(3), 303-320. doi:10.1016/S0953-5438(98)00012-5

Moran, M., Seaman, J., & Tinti-Kane, H. (2011). *Teaching, learning, and sharing: How today's higher education faculty use social media.* Boston, MA: Pearson Learning Solutions. Retrieved from https://files.eric.ed.gov/fulltext/ED535130.pdf

Norton, M., (2010). Information retrieval. In M. J. Norton (Ed.), *Introductory concepts in information science* (2nd ed., pp. 55-66). Medford, N.J.: American Society for Information Science and Technology.

O'Connor, B. (1984). *Access to film and video works: Surrogates for moving image documents* (Doctoral dissertation). Retrieved from University of North Texas Digital Library.

O'Connor, B. (1985). Access to moving image documents: Background concepts and proposals for surrogates for film and video works. *Journal of Documentation, 41*(4), 209-220.

O'Connor, B. (1993). Browsing: A framework for seeking functional information. *Knowledge, 15*(2), 211-232. doi:10.1177/107554709301500206

O'Connor, B., Kearns, J. L., & Anderson, R. L. (2008). *Doing things with information: Beyond indexing and abstracting.* Santa Barbara, CA: Libraries Unlimited.

O'Connor, B., & Copeland, J. Kearns, J. (2003). *Hunting and gathering on the information savannah*. Lanham, Maryland; Oxford: The Scarecrow Press.

O'Connor, C. & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, *19*. doi:10.1177/1609406919899220

Otto, J. (2014). University faculty describe their use of moving images in teaching and learning and their perceptions of the library's role in that use. *College and Research Libraries, 75*(2), 115-144. doi:10.5860/crl12-399

Park, T. (1993). The nature of relevance in information retrieval: An empirical study. *The Library Quarterly, 63*(3), 318-351.

Park, T. (1994). Toward a theory of user-based relevance: A call for a new paradigm of inquiry. *Journal of the American Society for Information Science, 45*(3), 135-141. doi:AID-ASI3>3.0.CO;2-1

Perry, J., Kent, A., & Berry, M. (1955). Machine literature searching X. machine language; factors underlying its design and development. *American Documentation, 6*(4), 242-254. doi:10.1002/asi.5090060411

Pian, W., Khoo, C., & Chang, Y. (2016). The criteria people use in relevance decisions on health information: An analysis of user eye movements when browsing a health discussion forum. *Journal of Medical Internet Research, 18*(6), e136. doi:10.2196/jmir.5513

Presidential Committee on Information Literacy. (2006). *Presidential Committee on Information Literacy: final report*. American Library Association. http://www.ala.org/acrl/publications/whitepapers/presidential

Purcell, K. (2013). *Online video 2013*. Washington, D.C.: Pew Research Center. Retrieved from http://www.pewInternet.org/2013/10/10/online-video-2013/.

Rees, A., & Schultz, D. (1967). A field experimental approach to the study of relevance assessments in relation to document searching. Cleveland: Case Western Reserve University.

Reichenbacher, T., De Sabbata, S., Purves, R., & Fabrikant, S. (2016). Assessing geographic relevance for mobile search: A computational model and its validation via crowdsourcing. *Journal of the Association for Information Science and Technology, 67*(11), 2620-2634. doi:10.1002/asi.23625

Resnick, A., & Savage, T. (1964). The consistency of human judgments of relevance. *American Documentation, 15*(2), 93-95. doi:10.1002/asi.5090150206

Saldaña, J. (2014). *The coding manual for qualitative researchers.* Los Angeles, CA: Sage Publications.

Salton, G. (1992). The state of retrieval system evaluation. *Information Processing and Management, 28*(4), 441-449. doi:10.1016/0306-4573(92)90002-H

Saracevic, T. (1975). Relevance: A review of and a framework for the thinking on the notion in information science. *Journal of the American Society for Information Science, 26*(6), 321-343. doi:10.1002/asi.4630260604

Saracevic, T. (1996). Evaluation of evaluation in information retrieval. Paper presented at the *Sigir 1995,* Seattle, USA. 138-146.

Saracevic, T. (2007a). Relevance: A review of the literature and a framework for thinking on the notion in information science. part II: Nature and manifestations of relevance. *Journal of the American Society for Information Science and Technology, 58*(13), 1915-1933. doi:10.1002/asi.20682

Saracevic, T. (2007b). Relevance: A review of the literature and a framework for thinking on the notion in information science. part III: Behavior and effects of relevance. *Journal of the American Society for Information Science and Technology, 58*(13), 2126-2144. doi:10.1002/asi.20681

Saracevic, T. (2008). Effects of inconsistent relevance judgments on information retrieval test results: A historical perspective. *Library Trends, 56*(4), 763-783. doi:10.1353/lib.0.0000

Saracevic, T. (2016). Relevance: a theoretical foundation. In D. Sonnenwald (Ed.), Theory development in the information sciences (pp. 141-163). University of Texas Press.

Saracevic, T. (2017). *The notion of relevance in information science: Everybody knows what relevance is, but what is it really?* San Rafael, California: Morgan & Claypool.

Saracevic, T., Kantor, P., Chamis, A., & Trivison, D. (1988). A study of information seeking and retrieving. I. background and methodology. *Journal of the American Society for Information Science, 39*(3), 161-176. doi:AID-ASI2>3.0.CO;2-0

Saracevic, T., & Kantor, P. (1988). A study of information seeking and retrieving. III. searchers, searches, and overlap. *Journal of the American Society for Information Science, 39*(3), 197-216. doi:AID-ASI4>3.0.CO;2-A

Schamber, L. (1991). *Users' criteria for evaluation in multimedia information seeking and use situations* (Doctoral Dissertation). Retrieved from ProQuest Dissertations & Theses Global.

Schamber, L., & Bateman, J. (1999). Relevance criteria uses and importance: Progress in development of a measurement scale. Paper presented at the *Proceedings of the ASIS Annual Meeting, 36,* 381-389.

Schamber, L., Eisenberg, M., & Nilan, M. (1990). *A re-examination of relevance: Toward a dynamic, situational definition*. Oxford: Elsevier Ltd. doi:10.1016/0306-4573(90)90050-C

Schoeffmann, K., Taschwer, M., & Böszörmenyi, L. (2010). The video explorer: A tool for navigation and searching within a single video based on fast content analysis. Paper presented at the *Proceedings of the First Annual ACM SIGMM Conference on Multimedia System,* 247-258. doi:10.1145/1730836.1730867

Sedghi, S., Sanderson, M., & Clough, P. (2013). How do healthcare professionals select the medical images they need? *Aslib Proceedings, 65*(1), 54-72. doi:10.1108/00012531311297186

Sherer, P., & Shea, T. (2011). Using online video to support student learning and engagement. *College Teaching, 59*(2), 56-59.

Smeaton, A. (2007). Techniques used and open challenges to the analysis, indexing and retrieval of digital video. *Information Systems, 32*(4), 545-559. doi:10.1016/j.is.2006.09.001

Smith, A., Toor, S., & van Kessel, P. (2018). *Many turn to YouTube for children's content, news, how-to lessons.* Pew Research Center. Retrieved from http://www.pewInternet.org/2018/11/07/many-turn-to-youtube-for-childrens-content-news-how-to-lessons/

Spink, A., Greisdorf, H., & Bateman, J. (1998). From highly relevant to not relevant: Examining different regions of relevance. *Information Processing and Management, 34*(5), 599-621. doi:10.1016/S0306-4573(98)00025-9

Stockwell, B., Stockwell, M., Cennamo, M., & Jiang, E. (2015). Blended learning improves science education. *Cell, 162*(5), 933-936. doi:10.1016/j.cell.2015.08.009

Swanson, D. (1986). Subjective versus objective relevance in bibliographic retrieval systems. *Library Quarterly, 56*(4), 389-398.

Taylor, A. (2012). User relevance criteria choices and the information search process. *Information Processing & Management, 48*(1), 136-153.

Tombros, T., & Crestani, F. (2000). Users' perception of relevance of spoken documents. *Journal of the American Society for Information Science, 51*(10), 929-939. doi:AID-ASI50>3.0.CO;2-D

TREC video retrieval evaluation: TRECVID. (2016). Retrieved from http://trecvid.nist.gov/

Turner, N. (2011). Librarians do it differently: Comparative usability testing with students and library staff. *Journal of Web Librarianship, 5*(4), 286-298. doi:10.1080/19322909.2011.624428

Wang, P. (2011). Information behavior and seeking. In I. Ruthven, & D. Kelly (Eds.), *Interactive information seeking, behaviour and retrieval* (pp. 15-41). London, UK: Facet Publishing.

Watson, C. (2014). An exploratory study of secondary students' judgments of the relevance and reliability of information. *Journal of the Association for Information Science and Technology, 65*(7), 1385-1408. doi:10.1002/asi.23067lk

Wildemuth, B., Oh, J., & Marchionini, G. (2010). Tactics used when searching for digital video. Paper presented at the *Proceedings of the Third Symposium on Information Interaction in Context,* New York, NY. 255-264. doi:10.1145/1840784.1840821

Wilson, P. (1973). Situational relevance. *Information Storage and Retrieval, 9*(8), 457-471. doi:10.1016/0020-0271(73)90096-X

Xu, Y., & Wang, D. (2008). Order effect in relevance judgment. *Journal of the American Society for Information Science and Technology, 59*(8), 1264-1275. doi:10.1002/asi.20826

Yang, M. (2005). *An exploration of users' video relevance criteria,* (Doctoral Dissertation). Retrieved from ProQuest Dissertations & Theses Global.

Zhitomirsky-Geffet, M., Bar-Ilan, J., & Levene, M. (2018). Categorical relevance judgment. *Journal of the Association for Information Science and Technology, 69*(9), 1084-1094. doi:10.1002/asi.24035