Teaching Students to Become Digital Content Curators

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Fact or Fiction?

By

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To my grandsons Daxton, Theo, and Eli…
For whom the digital future will be an amazing adventure.

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PREFACE

> In order for us to truly create and contribute to the world, we have to be able to connect countless dots, to cross-pollinate ideas from a wealth of disciplines, to combine and recombine these pieces and build new castles.
>
> —Maria Popova
> Writer, blogger, literary critic

Have you ever bought a new car, only to become immediately aware for the first time how many other people are driving exactly the same model? That experience illustrates my journey with digital content curation. It all started during a conference presentation where the speaker boasted of her skills in writing books on varied topics of interest and then posting them on Amazon in record time. She boasted that it was possible for her to write and post a completed book in four days. That comment made me look up from my computer screen and pay attention to what she was saying! If that is true, I mused, in the midst of a digital information tsunami, how do we go about discerning which pieces of digital content are worthwhile (e.g., accurate, actual contributions, useful)?

This conference presentation prompted me to begin looking at Internet content with fresh eyes and in greater detail. When looking at a web page or reading an article, I immediately ask myself a variety of questions:

- Is this true?
- Does the writer have the background necessary to speak in an authoritative manner on this topic?
- What is the evidence?
- Do the references support the writer's contentions and claims?
- What message is being communicated here?

My previously casual interest in the value of what I was reading quickly turned into an obsession to dig deeper and think more critically about Internet content.

The next leap I made was to think about my students. If I am making this discovery (which I later realized was long overdue), what about my students? How do they process the content that appears on their computers

or smartphone screens? More important, how can I help them to become better, more vigilant seekers of digital truth and careful consumers of what they read and hear?

This text focuses on the relationships among faculty, students, and digital content. It is the wise faculty member who will accept the digital reality of teaching in the twenty-first century and endeavor to create learning experiences that embrace technology as a tool for learning, both inside and outside the classroom. This role requires helping students to move beyond shallow relationships with Facebook, Instagram, and Snapchat. Additionally, faculty must help students establish new levels of awareness of what they can gain from diligent engagement with online books and journals, blogs, and instructional media. Opening this door for our students is a gift that will pay dividends throughout their lives as learners, professionals, community members, partners, and parents.

You are invited to learn more about how information is served up on the Internet and the ways in which it can be dissected, analyzed, used, and stored. We will examine a seven-step model of digital content curation. The purpose of this model is to provide a framework that helps faculty think about the components of digital content curation that can be seamlessly embedded into existing coursework. This integration allows students to learn about content curation and to see how and why these skills apply in the context of research-based assignments.

CHAPTER ONE

DRINKING FROM A FIREHOSE… AND STILL THIRSTY

> The speed of communications is wondrous to behold. It is also true that speed can multiply the distribution of information that we know to be untrue.
>
> —Edward R. Murrow (1908–1965), Broadcast journalist

As residents of the twenty-first century, we have an unquenchable thirst for information. We simply want to know everything, all the time. Part of the reason for this desire is the ease with which we can retrieve a steady supply of answers, facts, opinions, statistics, current events, rumors, and scandals, all in the blink of an eye. The information comes to us quickly and easily through the Internet, seamlessly delivered on the screens of our computers, tablets, and smartphones for our immediate consumption. We just can't seem to get enough!

Kitsuregawa and Nishida (2010) accurately dubbed this process of needing, accumulating, managing, and interpreting vast amounts of digital information as an "Info-plosion." There are many identifiable sources for this digital tsunami:

- More than one billion websites (InternetLiveStats: Total Number of Websites 2016), housing more than 60 trillion webpages (How Many Web Pages Are on the Internet Presently? 2016)
- An estimated 129 million different published books in the world (Jackson 2010)
- A 21% increase in the number of self-published books between 2014 and 2015 (Report from Bowker Shows Continuing Growth in Self-Publishing 2016). Bowker also reported that 727,000 ISBNs were issued for self-published books in 2015 (Anderson 2016)
- More than 1.79 billion Facebook users who are active monthly. Five new Facebook profiles created every second (Noyes 2016)

- On average, 6,000 Twitter tweets every second, or about 500 million tweets per day (InternetLiveStats: Twitter Usage Statistics 2011)
- 1,300,000,000 people using YouTube, viewing approximately five million videos per day (Donchev 2016)
- Two million blog posts written every day (Singh 2015)
- An estimated 205 billion emails sent every day (Tschabitscher 2015)

Consider for a moment how your own digital habits have contributed to these statistics. You are probably included in one or more (or all) of these statistical categories. Beyond the admittedly staggering numbers, however, are the ways in which we each choose to engage with vast amounts of digital content.

Having a wealth of information at our fingertips is not a new idea. In the book, *The Information: A History, A Theory, A Flood*, James Gleick (2012) provided a thorough and insightful examination of the ways in which our twenty-first-century culture has sought, coped with, and managed an ever-increasing deluge of digital information. Gleick referenced an essay by Argentinian author Jorge Luis Borges (1899–1986), written in 1941, entitled "The Library of Babel" (1964). Borges described a library organized into a vast network of hexagonal rooms, each containing four walls of bookshelves, a place to sleep standing up, and a place to care for needs related to personal hygiene. All the books found on the shelves were exactly 410 pages in length. This vast collection included every book ever written, translated into every language in the world. Borges described the reactions of those viewing the contents of this mythical library:

> When it was proclaimed that the Library contained all books, the first impression was one of extravagant happiness. All men felt themselves to be the masters of an intact and secret treasure. There was no personal or world problem whose eloquent solution did not exist in some hexagon. (61)

A virtual version of Borge's library, according to the specifications he described, has been simulated on an Internet website (www.libraryofbabel.info). Other writers have conceptualized fictional libraries, similar in the scale to Borges' Library of Babel, into their narratives, including *The Name of the Rose* (Eco 1994), *City at the End of Time* (Bear 2008), and *A Short Stay in Hell* (Peck 2012). Our longstanding fascination with vast amounts of information continues to flourish.

Our pursuit of information, however, is more than a fantasy. Kovach and Rosenstiel (2011) summarized the ways in which our hunger for content has progressed and grown through the ages:

> Yet for all that the information revolution may seem startling and disruptive, it is not unprecedented. We have been here before. Through the history of human civilization, there have been eight epochal transformations in communication that, in their way, were no less profound and transformative than what we are experiencing now: from cave drawings to oral language, the written word to the printing press, the telegraph to the radio, broadcast television to cable, and now the Internet. (12)

The historical progression of information disbursement was certainly "startling and disruptive." It was startling that each of these "epochal transformations" increased the ways in which citizens at varying times in history were able to gain knowledge about their world. It was disruptive in that each event was larger in scope than those preceding and challenged the informational status quo:

> And with each information revolution, certain key patterns have repeated themselves and certain tensions have remained. Each new method of communication made the exchange of information easier, more textured, and more meaningful. Communication of shared knowledge and shared curiosity brought people together in larger and larger communities based on common ways of knowing. Each advance in form and efficiency also had a democratizing influence: As more people became more knowledgeable, they also became better able to question their world and the behavior of the people and institutions that directed their lives. (12–13)

The most recent transformation, and arguably the most startling and disruptive, came in the form of the Internet. As with the other noted transformations, taking full advantage of this new information pathway requires access to the necessary equipment and has a learning curve (e.g., access to a computer, operating that computer, Internet access, search skills). And like all the other transformations, global influence occurred only as availability increased and use among the general population reached a critical mass.

Think back to the first time that you sat down in front of a computer or searched the Internet. This experience may have evoked a fair amount of excitement and anticipation mixed with some level of fear and trepidation. A learning curve followed, and at some point, you may have felt a sense of accomplishment because of your newly acquired skills. The pace of our exposure to new digital processes or products, our learning curves, and the number of skills we hope to master have all accelerated at remarkable speeds. Now we often find ourselves learning one set of skills while looking ahead to the next necessary tool or skill set to master.

All the information housed on the Internet is available and waiting for us. The manner in which we envision this vast amount of content, how we approach it, and what we do with the information we gain are pivotal considerations for life in the twenty-first century.

A Never-Ending Appetite

With information available to us 24/7 on our digital devices, it seems that we can never get enough of the Internet. The first billion Internet users had logged on by 2005 (i.e., 15.8% of the world population), the second billion users had enrolled by 2010 (i.e., 29.2% of the world population), and the third billion users signed up by 2014 (i.e., 40.7% of the world population; Internet Live Stats: Internet Users 2016). With each passing year, the number of Internet users has increased, the volume of available Internet content has grown, and we have become dependent on the Internet as a primary source of information. Curation guru Steven Rosenbaum (2014) summarized our ongoing fascination with more and greater ways to capture information as follows:

> Let's face it—we broke the web. No one person or company is to blame: we all played our parts. We tweeted, Facebooked, blogged, Flickred, and YouTubed the rolling green fields of a content utopia into a chaotic cacophony of bits and bytes. Our hard drives runneth over, our email is overflowing and it's having an impact on our work, our lives and even our health.
>
> Having overgrazed the commons, we're now headed to the sky; to the cloud, where all information will fit, and where everything will be available all of the time. At first glance, it seems like a new content utopia.
>
> Today, all the talk about content moving to the cloud is warm and fuzzy. The idea that all of the information you might ever want, all of the music you might ever want to listen to, all of the photographs you'd ever take, would all be just a link away seems delightful. However, clouds have a different metaphorical meaning as well and I see storm clouds on the horizon, dark and foreboding clouds. (12–13)

These observations provide insights into our past, present, and future practices for obtaining and storing information. Rosenbaum began by describing the imagery of our collective transitions from "rolling green fields" (perhaps alluding to the green grass and blue sky on the default wallpaper from Windows XP) and progressed to "the Cloud." Reflect for a moment on your own history of storing information. You may have started

with the floppy disk, moving from an 8-inch disk with storage up to 1.2MB to a 5¼-inch disk with 1.2 MB storage and finally to a 3½-inch disk with 1.44 MB storage. The 3½-inch disk also featured that little curious rectangular hole that enabled and disabled the writable capability of the disk. All these devices, because of their limited storage capabilities, required that their owners maintain a level of vigilance and selectivity over what was worthy of being saved. Most often, people saved documents (e.g., created by Word, Excel, or PowerPoint) that were largely composed of text and, perhaps, a few pieces of clip art.

We then graduated to using USB flash drives and later to external hard drives as necessary tools for storing increasingly large collections of data. These devices have the advantage of holding multiple terabytes of content. At the same time, they can be inconvenient because they have to be present for information to be saved or used. Enter the Cloud, offering accessibility from any location that has access to the Internet (i.e., virtually everywhere). We now have the luxury of saving anything and everything as often as we want … every document, every picture, song, every YouTube video, and email … just by uploading to the Cloud. What could be better than that?

To a significant degree, these changes in accessibility and storage capabilities have affected the manner in which we perceive content. When storage capabilities were limited, we had to give some thought to what was worthy of being saved and where it could be stored. With practically unlimited storage in the Cloud and accessibility from nearly everywhere, with ever-expanding types of information and content to save, discretion or deep thinking about what to store is arguably no longer a necessity. A by-product of the increased storage capability is a growing level of comfort that our digital devices can handle unlimited amounts of information.

Accompanying the ever-increasing quantity of information available on the Internet is a growing tendency for Internet users to spend more time chasing after that content. Perrin (2015) found that 73% of survey respondents indicated that they use the Internet on a daily basis, with 63% indicating that that they are online either “constantly” or “several times a day.” Engaging with information found on the Internet has truly become part of our cultural fabric. It is reasonable to assume that the volume of digital information will continue to increase at exponential rates. At the same time, accessing the Internet through our digital devices (which are always within arm’s reach) will probably get easier. It may be time to increase the size of your cloud-based storage account!

In response to the vast amounts of information available, and the levels at which Internet users are voraciously consuming that content, researchers have made efforts to categorize patterns of digital engagement. Black and

Groselj (2014) analyzed the types of activities performed on the Internet and the frequency with which those activities were undertaken by various groups of users. They identified ten major types of user activity and explored their prevalence in seven demographic groupings, including age, gender (male or female), place (urban or rural), ethnicity (white or non-white), education (no degree, secondary, further, or university education), life stage (student, employed, unemployed, or retired), and marital status (single, married, living with partner, divorced, or widowed). These types of activity, in order of frequency, include:

- **Email** (93.5% of the sample). Regression analyses suggested that the individuals most likely to use email were women, individuals with at least a secondary education, and people who are employed.
- **Information seeking** (85.7% of the sample). Individuals at all life stages reported seeking information on the Internet (e.g., facts, definitions, topics). Most likely to seek information were women and people with at least a secondary education.
- **Classic mass media** (78.3% of the sample). This category included traditional uses of the Internet, including reading about news and events, watching sports, and making travel plans. Students were the most common users of classic mass media.
- **Socializing** (61.2% of the sample). Socializing included instant messaging, chatting, sharing photographs, and engaging with social networking sites. People of all genders engaged in Internet socializing at about the same levels. Interestingly, students were less likely to use the Internet for socializing than non-students, including people who were employed and people who were unemployed.
- **Commerce** (59.8% of the sample). This category included paying bills, banking, buying and selling, and comparing prices. Men and women used the Internet for commerce about equally. White people reported using the Internet for commerce more than non-white people, and married people reported more of this activity than people who were single.
- **School and work** (48.1% of the sample). Students were the most likely to use the Internet for school and work (i.e., seeking a job, doing school work, distance education).
- **Entertainment** (46.3% of the sample). Individuals who were single were more likely to use the Internet for entertainment than those who were married. People at all stages of life participated in this activity about equally.

- **Production** (23.4% of the sample). This category included creative endeavors such as video and music uploading and creative writing. Living in an urban setting and having more education were significant predictors of using the Internet for production.
- **Vice** (20.9% of the sample). This category included visiting adult sex-related sites and gambling. People of all ages reported using the Internet for these activities. Using the Internet for this purpose was more common among married people and people living in urban settings.

Blank and Groselj added some rich insights to understanding prevalent patterns of Internet use among various demographic groupings. Their data reinforce the idea that we each have a niche for engaging with the Internet, and the exact nature of those niches may change over the span of our lives. The researchers concluded:

> As the Internet develops, it is likely that the common activities on the Internet will change. This suggests that longitudinal studies of changes in common activities could become one way to measure changes in the Internet. For example, some have suggested that social network site use has begun to supplant email, at least for some people. While we see no actual evidence of this in longitudinal analyses of email use, … it is certainly possible that some Internet activities may compete with other activities. As the Internet changes, activities may wax and wane in popularity for many reasons. Longitudinal studies of changes in Internet activities can be one way to measure the changing impact of the Internet. (433–34)

Btrandtzæg (2010) conducted a meta-analysis of the professional literature to explore a media-user typology. He defined a typology as "a categorization of users into distinct user types that describes the various ways in which individuals use different media, reflecting a varying amount of activity/content preferences, frequency of use and variety of use" (941). The resulting meta-analysis suggested twenty-two different user types. Btrandtzæg concluded that user typologies are largely qualitative in nature and driven by frequency of use, variety of use, and content preference.

In further work, Btrandtzæg, Heim, and Karahasanović (2011) used cluster analysis on survey responses from a sample of over 12,000 respondents, aged 16–74 years. They identified five primary user types, based on frequency and purpose of use:

- **Non-users** (42% of the sample)—people who do not use the Internet on a regular basis

- **Sporadic users** (18% of the sample)—people who occasionally use the Internet for specific searches or email access
- **Entertainment users** (10% of the sample)—people who use Internet radio and TV and who download games
- **Instrumental users** (18% of the population)—people who use the Internet for specific purposes such as banking, travel, and purchasing
- **Advanced users** (12% of the sample)—aggressive Internet users who have the skills to use the tools and resources for a variety of purposes

The Pew Internet and Life Project (Horrigan 2007) developed a more refined typology by identifying elite users, middle-of-the-road users, and users who have few tech assets.

Elite tech users (31% of American adults) included four subcategories:

- *Omnivores* (i.e., voracious consumers of all types of digital technology)—8%
- *Connectors* (i.e., individuals who use cell phones and online tools to connect with people)—7%
- *Lackluster veterans* (i.e., frequent users of the Internet who are not thrilled about digital technology—8%
- *Productivity enhancers* (i.e., individuals who use technology to enhance productivity and learn new things)—8%

Middle-of-the-road tech users (20% of American adults) included two subcategories:

- *Mobile centrics* (i.e., people who preferred the functionalities of their cell phones)—10%
- *Connected but hassled* (i.e., people invested in technology but hassled by the intrusive connectivity)—10%

Individuals with few tech assets (49% of American adults) included four subcategories:

- *Inexperienced experimenters* (i.e., people who occasionally use technology and would do more given the experience)—8%
- *Light but satisfied* (i.e., people who have some technology skills, but technology does not play a central role in their lives)—15%
- *Indifferents* (i.e., people who have cell phones and online access but use them intermittently)—11%

- *Off the network* (i.e., people who don't have cell phones or online access and are content without having either)—15%

Raphael (2009) suggested a different typology that cleverly analogized categories of digital tool usage as the new Zodiac signs of the twenty-first century:

- **Digital collaborators** are always engaged and sharing via the Internet, including writing blogs and participating in community forums (8% of the population).
- **Ambivalent networkers** use the Internet as much as the digital collaborators but enjoy it less, seeing the Internet as an intrusive force in their lives (7% of the population).
- **Media movers** are less connected than the previous two groups but share photos and videos on a regular basis (7% of the population).
- **Roving nodes** want to be engaged and connected but mostly use email and chats (9% of the population).
- **Mobile newbies** are new to the mobile digital world, focusing mostly on cell phone use with an occasional text message or photo (8% of the population).
- **Desktop veterans** see the Internet primarily as a source of information. They see the cell phone mainly as a tool for making calls but would rather use a landline if possible (13% of the population).
- **Drifting surfers** use but have no loyalty to a cell phone or the Internet (14% of the population).
- **Information encumbered individuals** see the entire realm of digital technology as a troublesome burden (10% of the population).
- **Tech indifferent individuals** are totally unimpressed by the capabilities of digital technology (10% of the population).
- **Off the network individuals** have no interest or inclination to be connected with or use digital technology (14% of the population).

We are living under a waterfall of ever-flowing information, and these studies and analyses provide an interesting and somewhat entertaining perspective on the ways in which people engage (or disengage) with digital technology. According to van Deursen and van Dijk (1999, 2011), people fall into various categories: those who lack digital experience because they have fear, a limited interest, or a general dislike of technology; those who do not have the equipment or digital connections necessary to use technology; those who are unable to use digital technology due to limited

skills or training; and those who have limited opportunities for access and cannot develop their skills.

Regardless of the category to which we assign ourselves and those around us, the reality is that twenty-first century residents who want access to information need to navigate digital environments. Digital information is undoubtedly the future. A vast amount of information is now available through digital means (e.g., batting averages of professional baseball players, our checking account balance, an address and phone number of a long-lost friend, directions on how to bake a triple chocolate cheesecake). Twenty-first-century residents increasingly need the equipment and knowhow to search for, evaluate, and use information that is stored in a digital format. The task ahead is to create a mechanism and a context to assist people in meeting that need.

The Knowledgeable Pretender

Given the amount of information available on the Internet and the time that people spend chasing that content, it is important to consider how we use these facts and figures. Neil Postman's remarkably insightful book, *Technopoly* (1992), was written at a time when technology was just beginning to blossom. It opens with a story from Plato's book *Phaedrus* (1973) to illustrate this point. In this story, the mythical King Thamus is entertaining the god Theuth, known for his many inventions. Theuth shows the king his invention, writing, which he claims will improve the wisdom and memory of the Egyptians. Thamus replies:

> Theuth, my paragon of inventors, the discoverer of an art is not the best judge of the good or harm which will accrue to those who practice it. So, it is in this; you, who are the father of writing, have out of fondness for your off-spring attributed to it quite the opposite of its real function. Those who acquire it will cease to exercise their memory and become forgetful; they will rely on writing to bring things to their remembrance by external signs instead of by their own internal resources. What you have discovered is a receipt for recollection, not for memory. And as for wisdom, your pupils will have the reputation for it without the reality: they will receive a quantity of information without proper instruction, and in consequence be thought very knowledgeable when they are for the most part quite ignorant. (3)

King Thamus was obviously somewhat skeptical of Theuth's invention. He suggested that writing might be a "receipt for recollection, not for memory" (3). It is reasonable to speculate that Thamus would also have some serious reservations about the Internet and its potential impact on our

abilities to think, reason, and recall. In the midst of an endless supply of information, it is indeed possible (paraphrasing Plato) to be thought very knowledgeable when, in fact, we are ignorant. Fisher (2015) referred to this phenomenon of being pseudo-knowledgeable as the "illusion of personal knowledge." That is, individuals may make it appear, or even believe, that they have certain knowledge about a topic, based on what they have gleaned from an Internet search. In reality, however, they are just repeating what they have read with the confidence of an expert. Berniato (2015) compared our ability to gather and repeat what we have read on the Internet to wearing a prosthetic bionic arm that provides us with a sense of power well beyond our own capabilities.

What is it about the Internet that bolsters our confidence and sense of personal knowledge to the extent that we are willing to portray ourselves as experts on topics about which we may know very little? One possible explanation is the theory of transactive memory. Wegner, Giuiliano, and Hertel (1985) proposed this construct as a way of exploring how groups of people store, process, and share information and knowledge. They described transactive memory as

> (1) an organized store of knowledge that is contained entirely in the individual memory systems of the group members, and (2) a set of knowledge-relevant transactive processes that occur among group members. Stated more colloquially, we envision trans active memory to be a combination of individual minds and the communication among them. (256)

From the perspective of transactive memory, being part of multiple groups has definite advantages. We can contribute to the information and productivity levels of others, and we can gain efficiencies related to our own performance levels. Transactive memory is an integral component of becoming a Knowledgeable Pretender.

The patterns of transactive memory are unique to couples and groups as they create their own cultures, processes, and transactive memory functions (Wegner, Raymond, and Erber 1991). While reflecting on the role of transactive memory in people's lives, I immediately thought of the inner workings of my relationship with my wife. We are very different people. I love to read, write, generate ideas, and as she describes, "think about stuff." In the relationship, I handle the finances, make travel plans, serve as the cook for large gatherings, and provide tech support. Admittedly, I also spend a fair amount of time pondering and creating (inside my own head). My wife, on other hand, is a "doer." She loves to do yardwork, build things, and fix things. She is an expert in the use of power tools and is actively involved in volunteer activities around town. Whereas I am theoretical, she

is solidly practical. This separation of expertise has matured over the past 35 years. Our division of informational responsibilities is not perfect, but for us, it works quite well. Another interesting aspect of our long-term experience is that we have never really had an "I'll think about this, and you think about that" conversation. The process has evolved over time.

From the starting point of transactive memory, it is valuable to examine the ways in which the groups we affiliate with are active creators and consumers of digital content and how our patterns of behavior are affected by those affiliations. Risko, Ferguson, and McLean (2016) suggested that as we internalize our membership in the larger community of the Internet, we are likely to develop a feeling-of-knowing and a feeling-of-findability. As we embrace the ability to search for and find the information that we need, the Internet becomes a readily accessible resource and an extension of our own acquired information and knowledge, and thus part of our transactive memory.

Wegner (1995), as he updated his original perspective on transactive memory, proposed that the manner in which members of a group share knowledge is comparable to a network of computers working together to acquire and store needed information or solve a problem. Wegner and Ward (2013) suggested that letting Siri (i.e., the Apple iPhone voice-activated information source) into our lives could have a dramatic impact:

> Our work suggests that we treat the Internet much like we would a human transactive memory partner. We off-load memories to "the cloud" just as readily as we would to a family member, friend or lover. The Internet, in another sense, is also unlike a human transactive memory partner; it knows more and can produce this information more quickly. Almost all information today is readily available through a quick Internet search. It may be that the Internet is taking the place not just of other people as external sources of memory but also of our own cognitive faculties. The Internet may not only eliminate the need for a partner with whom to share information—it may also undermine the impulse to ensure that some important, just learned facts get inscribed into our biological memory banks. We call this the Google effect. (58)

Sparrow, Liu, and Wegner (2011) conducted a series of experiments to assess the ways in which participants' memory skills were affected through interactions with the Internet. Several big ideas emerged from this study:

- Not knowing the answers to questions now routinely "primes the need" (776) to use a computer to seek answers.
- During the learning process, "… when people don't believe they will need information for a later exam, they do not recall it at the same

rate as when they do believe they will need it" (777). It is reasonable to infer that if learners know they will always have the Internet to provide information, they will be less motivated to engage actively in the learning process.

- Internet users need to recall the information that has been gathered and focus on the reasons and purposes for their searches. Many Internet users search and share without really processing what they have found; many never intend to remember the information. Forgetting means that we will need to search again.
- People tend to remember the "where" of Internet content they sought more than they remember the "what" of their search results. A growing body of research indicates that the human brain cannot keep up with what technology demands of us (Friedman 2016).

Fisher, Goddu, and Keil (2015) called on transactive memory as a link to Internet use patterns in their study examining how Internet aficionados use this resource as a primary source for information. Their study revealed that people tend to use the Internet as a cognitive partner. As they describe, individuals who use Google to search for answers may treat that knowledge as their own and may feel a sense of "cognitive self-esteem" (683) and confidence about their ability to answer questions and talk about the explored topic. Fisher, Goddu, and Keil (2015) gave the following warning:

> As technology makes information ever more easily available and accessible through searching, the ability to assess one's internal "unplugged" knowledge will only become more difficult. Erroneously situating external knowledge within their own heads, people may unwittingly exaggerate how much intellectual work they can do in situations where they are truly on their own. (684)

There are those who would suggest (much in the style of King Thamus) that the ease with which we can access information and choose the Internet as a partner has caused our thinking abilities to spiral. Richard Hohn Neuhaus (1998) went so far as to proclaim that the Internet has created "a global village of village idiots" (101). Strong language indeed, but a suggestion that bears further thought. Is our engagement with this vast storehouse of information, available at the click of a key, weakening our ability to think? In the book, *The Shallows: What the Internet Is Doing to Our Brains*, Nicholas Carr (2010) furthered the argument:

> What the Net seems to be doing is chipping away my capacity for concentration and contemplation. Whether I'm online or not, my mind now

> expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski. (7)

This analysis should not invoke fear. Rather, it suggests that we should approach the Internet with a healthy sense of caution when we read, hear others report, and communicate ourselves. Consider this concept: Could the Internet provide an excellent opportunity for all of us to get smarter, rather than dumber? We explore this question as we continue our examination of digital content curation as a necessary skill for the twenty-first century.

A Shout-Out to Technophobes and Technophiles

In spite of convincing arguments in favor of the Internet and the vast collection of information resources that can be found there, a considerable number of people choose not to take advantage of these resources. In a variety of contexts, these individuals have been labeled as *technophobes* (Fulton 1993; Sullivan 2014; Tchudi 2000; Varley 2015). A technophobe, as defined by the *Oxford English Dictionary* is "a person who fears, dislikes, or avoids new technology" (2017). This definition highlights a choice that individuals make to reduce or eliminate their interactions with technology. Selwyn, Gorard, and Furlong (2005) concluded that this choice is typically made for a variety of reasons, as articulated by participants in their study:

> Sometimes if I see a programme on the TV, I'll look up the website. There will be something I think, 'that looks quite interesting,' and then a few days later I'll remember that I saw that and I'll have a good search. And then you find yourself going off on a tangent. But I'm not an aimless surfer. I tend to go out with quite a specific idea of what I'm looking for; it's usually around need. (Female, 38 years) (13)

> Quite often, I'll pull a book out if I'm after some information. I go to the book first and if I can't find it in the book, then I go on the internet … [but] you're doing the crossword and you're stuck on a crossword, click click, Ask Jeeves and he'll tell you the answer! (Male, 63 years) (15)

> Maybe in the business place it's far more important, but actually in everyday life, you can take it or leave it. It's not crucial to have internet access … I don't think you can generalize. Some people, it's just a choice—they prefer not to use it. (Male, 31 years) (18)

It can, of course, be argued, and it should be remembered, that many individuals around the world are denied access to technology for a variety

of reasons, including age, gender, socioeconomic status, educational level, and the presence of a disabling condition (Carvin 2000; Gunkel 2003; Hargittai 2013). The comments of the participants in Selwyn et al.'s (2005) study, on the other hand, seem to be from individuals who made a lifestyle choice based on their personal preferences. Active technology users often have a strong tendency to proselytize their friends and relatives about the power that can come from becoming part of the digital world. Hearing them talk suggests the essence of a spiritual adventure, and for them, it may be. However, it is important to respect the decisions of others who choose not to travel down the digital path.

At the other end of the digital use continuum is a group of individuals known as *technophiles*. According to the *Oxford English Dictionary, a* technophile is "a person who is very enthusiastic about technology, especially one who enjoys the advances in computer and media technology" (Technophile 2017). You are likely to be a technophile if you engage in one or more of the following behaviors:

1. You suffer from Gear Acquisition Syndrome (GAS)—the feeling that you *have* to have the latest and greatest at your fingertips. You love the thrill of having something new to play with and you constantly try to justify getting new gadgets. Your search history is probably loaded with forums and reviews and your Amazon account a stream of saved items.
2. If a friend or family member needs input on a new gadget, you are always their go-to resource. They probably wouldn't buy anything without asking you first.
3. You keep your social interaction in the digital realm. Texting is second nature, customer support is initiated over chat, and "catching up" for you means perusing social posts and pictures of friends and family.
4. You frequently have people asking you "Is that the new …" or "What is that?" when they see your gadgets. You feel special for being a part of an exclusive group of geeks, and you love how your gadgets can impress people and spark conversations.
5. You've lost track of how many online accounts you've opened on websites and you struggle with remembering passwords and usernames because you have so many. Doing things online is so much more efficient—as long as you can log in.
6. You have multiples of the same gadget. You might have three computer monitors set up in your office, or multiple tablets with one for games and the other for doing work. You feel like having more tech makes you productive and adaptable.
7. You feel annoyed when a friend or family member has the newest version of a gadget, especially if it functions and looks better but costs less than your own.

8. You experience anxiety over the fear of missing out. You often trade sleep for more time to spend online so you can stay on top of the newest trends. ("8 Signs You're a Technophile" 2016)

Do you see yourself on this list? If so, then you qualify as a technophile! You love technology and can't seem to get enough of it.

We have a tendency to devalue and criticize technophobes while celebrating the digital prowess of technophiles. It may be reasonable to argue that these two diverse groups could learn something from one another. Technophobes could, perhaps, consider the ways in which expanded use of the Internet might be of service to them. They might gradually become involved, deciding to include the Internet as a transactive partner for certain tasks (e.g., making airline reservations, finding the schedules for their favorite athletic teams, looking up definitions or weather forecasts). Technophiles, on the other hand, might want to embrace some of the hesitancies that technophobes have, such as using more caution in searching and not accepting everything posted on the Internet as accurate.

This conversation about technophobes and technophiles should be viewed as an examination of the extreme ends of the continuum of technology use. In reality, most of us fall between these two extremes. For all of us, however, it is critically important to learn the skills necessary to curate effectively and to examine all the information that comes our way through digital channels. This skill set and this predisposition help us to become better, more accurate, and more diligent consumers of Internet resources. Instead of drinking from the digital firehose and increasing the risk of drowning, we purposely turn on the faucet and draw out a glass of water, taking only as much as we need in a thoughtful and intentional manner. Our goal for the remainder of this text is to pour one glass at a time as we examine the ways in which all of us, across the continuum of digital use, can hone our abilities to critique, select, and share the best possible information in the context of where we live and work.

Talking Points

The goal of this chapter is to set the stage for conversations about digital content curation. We live in a time in history unlike any other. The Internet provides a pathway for us to gain access to more information, more quickly, than all our ancestors combined in the times that they lived. This is good news and bad news: The good news is the availability of information, and the bad news is that we must now enhance our skills to assure that what we read, select, and share is accurate and precise.

Regarding the availability of digital content, the key points to consider are as follows:

- The vast and ever-increasing volume of information available on the Internet
- Our seemingly insatiable appetite for more information
- The manner in which we can give the impression that we are knowledgeable on a topic, even when we are simply parroting what we have read on the Internet with minimal critical evaluation
- The continuum of Internet users, with the extremes labeled as technophiles and technophobes

Reflective Questions

1. In what ways have your personal Internet search habits and skills changed over the years? As each year passes, do you find yourself using the Internet more or less?
2. At what level are you willing to accept the information gained through Internet searches? Do you exercise varied levels of acceptance based on certain topics, the need for speed, or task-specific levels of accuracy (e.g., high level required for research purposes, low level for information about a sports team)?

CHAPTER TWO

PATTERNS OF INFORMATION-SEEKING BEHAVIOR

> There's a danger in the Internet and social media. The notion that information is enough, that more and more information is enough, that you don't have to think, you just have to get more information—gets very dangerous.
>
> —Edward de Bono, Maltese physician, psychologist, inventor

In the midst of the ever-growing volume of information, easily accessible and at our fingertips, is the challenge of finding the exact pieces of information that we hope for or need to find at any moment. As citizens of the digital age, we have developed idiosyncratic strategies that lead us through the maze of documents and websites that are offered as possible solutions to our search queries. Sometimes those strategies work quickly and efficiently, but other times we are frustrated and willing to settle for responses that we perceive to be "just close enough."

Although we may want to convince ourselves that seeking and searching for information are new phenomena unique to digital realms, the reality is that information-seeking behaviors have always been an integral part of the human experience. From birth, as growing and developing organisms, we pursue information for a variety of purposes and in a variety of ways. The focus of our searches and the strategies available to us, however, change over time. These changes occur developmentally as we learn new and improved ways to navigate our environments. Additionally, these adjustments occur out of necessity as the world around us continues to change. Consider, as examples, the activities involved in shopping for groceries or buying a car. Over time, we have adjusted the ways in which we gather information to help us participate in these two tasks, largely in response to changes in the culture.

Wimberly and McLean (2012) analyzed the information-seeking practices related to grocery shopping that have evolved over the past 200 years. In the United States, the earliest locations for grocery shopping were

small, independently owned specialty shops that typically sold nonfood items that could not be grown or produced at home. Grocery shops have transformed considerably over the years, ultimately morphing into the large megastores that we know today. An impressive number of socioeconomic and factors contributed to the transformation of shopping environments and our twenty-first century patterns of shopping behaviors:

- An increased number of alternatives to shopping at grocery stores (e.g., dining out, home gardening, farmer's markets, online purchasing)
- Changes in the labeling of food products that reflect governmental requirements
- Encouragements to have a healthier diet
- A growing diversity of food preferences and an interest in varied types of cuisine
- Economic conditions
- A car culture that enables shoppers to have more choices when selecting where to shop
- Shopper loyalty to stores or products
- Purchasing incentives (e.g., coupons, sales)
- Opportunities to engage in online buying

Wimberly and McLean summarized the manner in which changes in the shopping environment and the availability of technological and interpersonal assists have affected the process of grocery shopping as follows:

> Regardless of the amount of information available to consumers at any point in time, shoppers demonstrated consistent information seeking behaviors throughout the century. Seeking information from resources … allowed shoppers to find specific information to satisfy defined queries. Gathering information from diverse sources through browsing contributed to shoppers' personal clouds of information. Acquiring knowledge passively through media, government, and store initiatives furthered shoppers' knowledge of information they otherwise would not have sought. While emerging resources and technology make information available in new ways, grocery shoppers will likely continue to utilize these ingrained information-seeking behaviors. (203)

This example illustrates that as the environment changes (e.g., reconfiguration of our favorite grocery store), shoppers necessarily need to adapt, alter their information-seeking behaviors, and persist so that their shopping needs are met. Changes are not always welcome, and the adjustment process is not

without challenges. Change, however, is inevitable and a continuing part of our lives.

Studies of the ways in which people make decisions when purchasing automobiles also show how patterns of information seeking have changed. Aspray (2011) documented dramatic changes in the sources and quantities of information available about automobiles and the manner in which buyers engage with that content. He cited Higdon's (1966) summary of the complications that arose from trying to purchase an automobile in 1966:

> Last year a Yale University physicist calculated that since Chevy offered 46 models, 32 engines, 20 transmissions, 21 colors (plus nine two-tone combinations) and more that 400 accessories and options, the number of different cars that a Chevrolet customer conceivably could order was greater that the number of atoms in the universe. This seemingly would put General Motors one notch higher than God in the chain of command. (Higdon 1966, 262)

Given that analysis, consider the number of options and levels of complexity found in automobiles today, some 50 years after Higdon's clever analysis (e.g., Bluetooth, backup cameras, lane change warnings, front wheel drive, satellite radio, keyless entry, GPS). These developments, all of which greatly enhance the car driving experience, have also added complications to the purchasing process.

Aspray (2011) indicated that in 1920, the primary sources of information available to car buyers were mass-market periodicals, manufacturers' brochures, auto shows, a walk-around kicking the tires, family, friends, and mechanics. Contrast those sources of information and their potential to communicate vested interests in support of particular products with the wealth of information available today about any car that you may want to purchase (e.g., from consumer guides, auto magazines, radio and television, car shows, or targeted Internet sites). Presumably, if we use the information that is available effectively, we will be better positioned to make sound decisions about the cars we purchase. This process will become more complicated every year as accoutrements are added when new models roll off the assembly line. Consequently, automobile shoppers must become increasingly adept at sorting through the available information as they look for their "perfect" cars.

Grocery shopping and buying a car are illustrative of the many information-based decisions we make every day. Whether we are searching for our favorite cereal in a grocery store or identifying the best person to hire for home repairs, we need to seek information that will help us make the best choices related to our individual needs. As we search, however, we