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Human Information Behavior 17:610:510:93

Understanding the relationship between humans and information is known within the fields of library information science as information behavior (Bates, 2010, p. 2381). Information behavior has been a field of study since the mid-1800's, gaining traction and expanding steadily since the early 20th century. However, the bulk of research done in information science has focused on Western culture, mainly in the fields of science and medicine (Bates, 2010, p. 2392). With the vast amount of unique populations and cultures in the world and the lack of a sense of harmonization and universal understanding between them, it is my opinion that more information behavior research should be done regarding underrepresented communities and populations. To show the proposed value of conducting this research, I have made the indigenous populations of Alaska and Canada the focus of this paper.

The lack of available knowledge regarding information behaviors of indigenous peoples is not surprising, considering the environmental and geographical limitations of interacting with these populations. The northern North American indigenous settlements are few and far between, with over 600 First Nations in Canada located within rural and remote areas, some accessible only by airplane year-round (O'Donnell et al. 2013). Long-standing distrust of outsiders due to centuries of "deculturation, outmigration, alienation, distrust, and despair" (Rodenhauser, 1994, p. 1), as well as the effects of colonization (McMahon, 2013, p. 82-93), also factor to limit the amount of information gathered from indigenous peoples. What little information the rest of the world has about these populations is generally reduced to three areas of study: medical and psychological issues, traditional environmental knowledge (TEK), and education. This paper

attempts to explore the available knowledge in these areas to provide an overview of two of the broader studies of information behavior: information seeking and information sharing. I also investigate how groups of indigenous people share knowledge among their own as well as "outsiders", notably Western cultures. Finally, I examine what information is sought by Western cultures from indigenous populations; how it is used and applied in the Western world; and issues and ethical questions the seeking, sharing, and application of this knowledge poses.

The Internet and information sharing

Before the arrival of technologies such as radio, television, and the Internet, intercommunication between indigenous tribes was limited due to the geographical landscape (McMahon, 2013). With the introduction of Western technology such as telephone and radio messaging in the 60s and 70s and the expansion of such infrastructure, inter-tribe information sharing became much more accessible. In Canada, by the mid-1980s, Native peoples were broadcasting their own content through radio, and later television (O'Donnell et al. 2016, p. 3). However, it wasn't until the introduction of the Internet that Native populations had an impactful way of information sharing outside of their own communities. The Internet brought not only the opportunity for Native cultures to communicate with each other, but also the ability to collaborate as one group of people. This benefitted individual tribal needs and interests as well as indigenous peoples' interests as a whole. Currently indigenous populations use the Internet to interact with others within and outside of their own cultures, as well as several different social, political, educational, and entertainment purposes.

One of the most positive and influential ways information sharing through the Internet has affected Canadian Natives and their relationship with Western culture is by giving a group of separated and mostly unheard peoples a political and social voice that is recognizable outside of

their own cultural sphere. For decades indigenous people were forced to live by standards and under rules that were created by people living outside of their knowledge systems and with little to no input (McMahon, 2013, p. 82-94). They are now able to take on outside forces that previously influenced their lives without a more fully sound voice. Social activism has become a prominent part of Internet culture over time as well (O'Donnell et al., 2016). For example, the website "Quanuuk" was created as an online forum that people could use to discuss a referendum on the Nunavik Regional Government (McMahon, 2013, p. 258). "Idle No More" and "#sealfie" campaigns are two more examples of the Inuit "leveraging social media for activism" (O'Donnell et al., 2016). Furthermore, the Internet presents an opportunity for the Native populations to share personal and cultural stories with the outside world, as well as defend themselves against negative stereotypes and false information (O'Donnell et al., 2016, p. 13-14).

Internet technology has also positively affected Native Canadian populations internally through two major routes – the adoption of community informatics and digital self-determination. Community informatics is the theory that "technology in itself will not support community development if the collective capacity is not available to use the technology effectively" (O'Donnell et al., 2013, p. 4). Community informatics demands that information be shared freely and generously throughout the community to sustain the benefits technology brings. Since the adaptation of this model, indigenous Canadians have been successful in supporting the technology themselves, forming the framework of digital self-determination, which explains "that indigenous peoples are shaping and using newly developing technologies to meet their needs as self-determined collectives" (McMahon, 2013, p. 1). These two platforms combined help to create a community that not only has a powerful way of sharing information with the outside world, but also with their own community, bringing education that turns into

paying and sustainable jobs, as well as providing the means for indigenous states to "pursue their collective rights and freedoms using digital technologies" (O'Donnell et al., 2016, p. 15).

These technological hubs of information, or public spheres (O'Donnell et al., 2013), not only help to maintain technological communications, but they also help to preserve culture as well as enhance it. Social networks and Internet communication are used to share stories and promote family and community connectedness (O'Donnell et al, 2016, p.12). Sharing information via video conferencing connects tribes in a way that cannot be established through voice chatting or text-based communication (O'Donnell et al., 2013). With younger Native populations leaving home and heading to schools outside of their own communities (Reyes, 2000) as well as to find work in larger cities (O'Donnell et al, 2016), the Internet allows communities to remain connected. This not only helps to preserve the culture, but also helps to preserve the health and wellbeing of the older populations (Lewis, 2014).

Since the Western world started deculturizing the people who live in the North, information sharing through the Internet has become the strongest tool they have to fight back against colonialization to protect their culture, and work with Western populations to peacefully coexist. The power of information sharing of their cultural beliefs through the conduit of the Internet humanizes the faceless "Eskimo" of the north and contributes to encouraging non-Natives to empathize with the culture, therefore possibly becoming advocates for them and reevaluating the actions of their ancestors. It provides a face, voice, and context to a group of humans inaccessible and unknowable to the rest of the world without being seen through the eyes of another culture looking in and skewing their way of life. It puts them in power of their own selves and the way they are perceived by outsiders, breaks down barriers, destroys stereotypes, and shares knowledge unattainable to the rest of the world. Therefore, I argue that

information sharing thorough the Internet is the most valuable and powerful tool Native populations have ever had to enhance and preserve their way of life since the introduction and arguably, invasion, of Western cultures.

Information Seeking and Sharing by Non-Native Populations

The cycle of information seeking and sharing of specific sets of information between Western and Native cultures poses the largest set of issues regarding information behavior. Although I have observed a mutual cycle of information sharing in the topics of education and politics (O'Donnell et al, 2016; McMahon, 2013; Reyes, 2000), I have found that information seeking is mostly one-sided within the mental health and environmental knowledge fields. In these cases, almost all the information seeking is done by Western cultures from Native populations. This leads to a situation where information that is sought and collected undergoes a cycle where the source of the knowledge can be left out of the process of sense-making, therefore skewing and adapting the source material into a knowledge framework that it was not intended to meld with.

Traditional environmental knowledge, or TEK, the "intimate knowledge that Inuit possess about the environment" has been an integral part of Western science's research of the American Arctic since the 1960s (Wenzel, 1999, p. 1). Similarly, information regarding mental health issues of Native American populations has been researched by organizations such as the Alaskan Psychiatric Institute (Rodenhauser, 1994). Bodies of information gathered by non-Native professionals deemed to be important to their respective topics are collected, analyzed and repurposed through Western frameworks of knowledge, then shared with a population that works within that Western framework. Considering this process alongside theories of information seeking and sense-making brings to light a series of issues with the authenticity of

meaning, evaluation, and presentation of the final output of the original information when shared within Western circles.

Sense-making of Native information

One interpretation of information seeking is "a process of sense-making in which a person is forming a personal point of view" (Kuhlthau, 1990; Dervin, 1983). Dervin also defines sense-making as "first, and foremost, a set of metarheroric assumptions and propositions about the nature of information, the nature of human use of information, and the nature of human communication" (1992). Therefore, sense making is an integral part of the information seeking process. Because sense making is dependent on the human context and situation in which it is being done (Dervin, 1992, p. 61-63), and the differences between Native culture and Western medicine and science are vast, the information shared between cultures will always be skewed, and never 100% interpreted or utilized as originally intended. This has significant consequences with healing and improving relationships between the two cultures, understanding and implementation of TEK, and improving the lives of the Native populations as mental health workers are intending to.

This situation has not gone unnoticed by researchers, though efforts being made to close the gaps in each field vary. In environmental science multiple ideas about the relationship between TEK and Western science are being debated, ranging from better integration of TEK into Western science, vice versa, or not integrating it at all (Wenzel, 1999). Mental health advocates are attempting to better inform themselves about the cultures they work with, improve their relationships with Natives, and even collaborate with them in presenting and sharing their findings (Rodenhauser, 1994; Legaspi & Orr, 2007). The outcome of these debates or attempts and the level of success they find will depend on taking two concepts into consideration –

context and situation. Although these have been used in tandem in information behavior theory, they represent explicitly different ideas. “Contexts are frameworks of meaning, and situations are the dynamic environments within which interpretive processes unfold, become ratified, change, and solidify” (Cool, 2001, p. 8). Considering this interpretation, context and situation should be treated as separate entities, each bearing more weight in one field than the other.

Context of Native information in TEK

Context, according to Brenda Dervin, can take on several definitions depending on the manner of which it is being invoked (1997, p. 111-113). For the purposes of this paper, I define context as the overall Native culture; the way their knowledge was obtained, and how it is used. It is imperative that this context is considered when seeking and understanding TEK. Without consideration to the context in which the knowledge was gathered, one cannot fully understand its importance or interpret it properly (Wenzel, 1999, p. 9-10), thus not fully executing the sense-making process. Researchers in environmental science understand this tremendously. Because Western science is so different from TEK in the ways knowledge and information is obtained, sought, and used, researchers have taken different stances on how it should be taken into consideration alongside Western science (Wenzel, 1999). Some scientists believe that TEK is a “research genre” that should not be blended with Western scientific practices, while some believe that given the right contextual framework it can be successfully integrated (Wenzel, 1999 p. 7; Huntington, 2011). Regardless of which camp one subscribes to, the concept of context in sense-making drives both philosophies. TEK cannot be evaluated without the context in which it was formed by Natives, and the authenticity of the information shared cannot be maintained without being contextualized.

TEK declares that "the more a species is hunted, the more abundant it will become" (Wenzel, 1999, p.10). This is an example of TEK clashing with Western knowledge, being nonsensical when applied to Western science; hunting of populations in order to control them is a common method in the United States and prohibiting hunting in order to protect the populations of specific species such as fish is a widely known practice. This aspect of TEK may only be understood after applying the context of Inuit culture, or biological terms; "Animal populations which are hunted regularly have less disease, reproduce faster, and have more to eat than animals which are not hunted." (Wenzel, 1999, p.10). This illustrates the importance of using context, or an understanding of the cultural knowledge frameworks the information came from, when interpreting and communicating TEK within Western science. This example is proof that as stated before, due to the differences in which the frameworks of Western and Inuit knowledge are built, one cannot be fully integrated with, or be understood by, the other. We can then appreciate the reasoning behind the debates about the use of TEK in Western science.

Situation of Native populations

"Throughout this century, psychiatry has increasingly appreciated the influence of culture on human behavior." (Rodenhauser, 1994, p. 1) Culture, in this case, is synonymous with context. While context should be the overall arching framework of mental health care, I believe that situation should be the focus of investigation and understanding of mental health issues within Native cultures. The theory of context paints too wide of an image of that which is needed in order to tackle the issues affecting Native populations today and has too many definitions and theories in order for it to have significant meaning (Dervin, 1997). Situation, while also guilty of not having a concise definition, has enough of a base of being a part of context, involving people, places, and points in time-space (Cool 1997, p. 7) to assist in pinpointing underlying causes or issues that may be related to a person or group's mental health. Mental and physical health

workers may look at the culture, or context of the people being affected by issues, finding what about those cultures causes the issues they are having. However, it may be the case that the culture is not the issue, but the situation that the culture is in.

"Alaska Natives…have a higher incidence of various medical conditions such as alcoholism and diabetes…" (Wood, et al, 2003, p. 58). While looking at what inside of a culture may lead to these conditions, one may find that these conditions may or may not have existed before a specific time, or what influences, or situations, may have affected the culture leading to these issues. The situation of children growing up in boarding schools offers an example of situation affecting the mental health of Natives. Prior to the mid-1970s, Alaskan Native children were sent to boarding schools or moved away from their homes to obtain a Western education (Reyes, 2000, p. 144). That, combined with a feeling of having to leave behind their culture when attending colleges, even within the Alaskan state (Reyes, 2000, p. 154), could lead to loneliness and depression, which may lead to alcoholism (Cacioppo, Hughes, Waite, Hawkley, Thisted, 2006, p. 147). This example of a mental health issue is not just due to the context in which the now adults grew up in, but more the situation. Therefore, while both should be part of understanding and attempting to help those with these issues, situations may offer more helpful and relevant insight as to why these issues exist, and how they may be alleviated.

Information gathering by non-Native researchers and ethics

The amount of data regarding the information behaviors of the indigenous populations of Alaska and Canada is limited. However, the framework for further studies have been laid by the work referenced within this paper. Although these works deal mostly with the evolution of the use of technology and environmental and psychological fields, they contain a lot of material valid to information behavior without fully delving into the theoretical frameworks of such. I

would like to see someone who is prominent in or has more knowledge of information behavior synthesize a paper using the same frameworks of context and situation; I think there is enough information present in the research I have found to produce a much larger and prominent study. It seems as if information science has not touched this population, and researchers are missing out on an opportunity. With the growing amount of information that is becoming available about these populations outside of information science, as well as the advances of the Internet and technology among Native-populated areas, this opportunity is easier than ever to be seized by interested parties.

However, there are ethical issues that arise when researching this population. First, the non-natives that conduct this research are outsiders, and need to not only respect the cultures that they study when learning from them but should also learn about them before conducting specific research (Huntington, 2011, p. 183). Without at least an amount of general knowledge about the cultures one is studying, one cannot attempt to make sense of the information they obtain. Due to the checkered history of Western and Native and indigenous peoples, I believe that a broad and deep investigative dive into the cultures should be done before attempting to study something so inherently Western such as information behavior in the context of their cultures. It is my opinion that without a heavy understanding of the context and situation that the Native peoples live in, it would be impossible to conduct any meaningful research. This should be done in an ethical manner, politely, under the banner of any culture norms that need to be observed.

Secondly, the information that is gathered should be synthesized and disseminated with the collaboration of the Native peoples themselves. Because information science is a Western science and not “native” to the Native populations, it would benefit the researcher to work with the people they are studying to figure a way to represent the information gathered in a way that

keeps true to the situation or context it was obtained. We see this as the number one issue with TEK – currently researchers are at odds with each other about how the information can be integrated into Western science. It is my opinion that there is a way that the information can be shared with respect to its original source and context and worked into Western ideas, as long as time and energy is spent working with the people it came from. "In Disseminating Research on Community Health and Well-Being: A Collaboration Between Alaska Native Villages and the Academe" (Legaspi & Orr, 2007), the researchers describe the ways they worked together with the tribes they studied and reporting the information they found. I believe this paper could serve as a guide to those looking to work with Native cultures and illustrates a basic framework for collaboration.

Lastly, I cannot leave out the issue of whether we deserve, or should know the information behaviors, or if any of this is really our business. Western cultures have in the past shown little to no respect for Native populations, and it is only recently that there has been a push to respect their cultures when reaching out to them for information we find relevant to Western ideas. Although I believe that knowing more about their information behaviors could help assist the populations in some ways, such as being able to more effectively deliver help and assistance for medical and psychological needs, I also feel there is a line somewhere that we should not cross, a place of minding our own business; that we shouldn't bother these people who we have treated so poorly in the past. However, based on my research writing this paper, I cannot determine where that line is, or if it exists at all. Ultimately, I believe that research into how knowledge of Native information behavior could assist these populations should be done before any specific studies are conducted, and we tread lightly in an area that we have kind of already screwed up.

Conclusion

The irony of being a white, middle class Western female writing a paper about a culture she knows little to nothing about nor has never interacted with is not lost to me. It was only my curiosity and respect and awe of their culture that led me to write about them, not an intention to help or further the interests of their populations. The fact that I have written this without any prior knowledge, let alone extensive experience with the culture other than being in the state of Alaska once in my life, is a perfect example of what I am imploring future researchers to not do. Although I did some cultural research before writing, I only looked at aspects that I felt would be pertinent to the topics I would be touching in the paper. I did not take into consideration the culture, I did not reach out to the people I would be studying, and I certainly did not immerse myself into the world of Native Alaskan or Canadian populations. This paper, therefore, is almost a perfect model of what not to do when studying non-Western populations. However, not all is lost; what I did accomplish within these pages is learn ***why*** research into non-Western cultures should not be conducted this way, and how current research can be improved.

Given the technological advances that Alaskan and Canadian indigenous populations have seen in the past thirty or so years, and the vast amount of information that the indigenous people have been putting on the Internet to educate and inform the world about their cultures, there is no excuse for researchers to not do their due diligence when investigating them, including observing information in topics that may not directly relate to their direct needs. Using information in this paper regarding the use of the Internet and how it is being approached by the Native populations, researchers can easily do the basic amount of research needed to understand what they would be getting themselves into before doing the deeper dive that is suggested. Scientists and researchers can even use these resources to learn from one another about how to

better interact with and learn about these cultures. Ignorance is no longer an excuse when conducting non-traditional information behavior research.

It is easier for people to create and form robust ideas, philosophies, and theoretical frameworks about populations or sets of people that we are familiar with because of our understanding and firsthand experience with their contexts and situations. We can empathize with these populations, see ourselves in them, and relate what we know into the research and findings without straying too far from the personal experiences of the subjects. Therefore, most of the studies of information behavior in the past have been conducted within the realm of academia. However, as the field expands, more specific and non-conforming groups of people are going to be included in the sphere of human information behavior research. I hope that my discussions about context, situation, and ethical issues surrounding research by outsiders becomes a critical part of research when these populations become the topics of conversation.

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