Indigenous Community Driven Knowledge Organization at the Interface

The Case of the Inuvialuit Digital Library

Abstract:
The goal of knowledge organization is to address the ways in which information and knowledge are conveyed, communicated, and understood. Beghtol (2002a; 2002b) argues for the principles of ‘cultural warrant’ and ‘cultural hospitality’, which make reference to the importance of taking into account cultural contexts, dimensions, and differences in knowledge organization. This notion of cultural relevance is also critical when developing digital libraries - online platforms for organizing, sharing, and providing access to resources in digital form - by, with, and for communities. The challenge of cultural relevance in digital libraries is particularly strong when working with Indigenous communities, as most digital library platforms are based on western approaches to knowledge organization. The Inuvialuit Digital Library (https://inuvialuitdigitallibrary.ca/) was developed as part of the Digital Library North project, a four-year collaboration between the Inuvialuit Cultural Centre Pitquhiit-Pitqusiit (ICC) and communities within the Inuvialuit Settlement Region (ISR) in northwestern Canada, and researchers at the University of Alberta (Edmonton, Alberta, Canada), to develop a digital library infrastructure to support access to cultural resources. Using culturally appropriate methods, the team used an iterative development process to enact a culturally reflective and responsive metadata and knowledge organization framework for the Digital Library. This community driven framework allows the Inuvialuit to tell their own story in their own words, and enhances community engagement with their Digital Library.

1.0 Introduction

The goal of knowledge organization is to address the ways in which information and knowledge are conveyed, communicated, and understood. Cultural aspects of knowledge organization and the principle of 'cultural warrant' and 'cultural hospitality' as argued by Beghtol (2002a; 2002b) make concrete references to the importance of taking into account cultural contexts, dimensions, and differences in knowledge organization. The same argument holds true about conceptualizing knowledge organization as understanding and effective communication.

Digital libraries are online environments for organizing, sharing, and providing access to resources in digital form (Borgman 1999). They are understood to be developed by, with, and for user communities. Indeed, Pang (2012) notes that “one cannot fathom a digital library without considering the social interactions driving its development, sustainability and use” (86). Ideally, then, their content, functionality, as well as metadata and knowledge organization should reflect the needs, interests, and contexts of the communities from which they originate. Baca (2003) emphasizes this when she notes that it is not enough to use some metadata standard; a metadata standard appropriate to the materials in hand and in particular the intended end-users must be selected.

Hudon (1997) and Zeng and Chan (2004) remind us of the importance of cross-cultural and cross-lingual aspects of the development of knowledge organization systems and point to the importance of cultural relevance. Boast, Bravo, and Srinivasan (2007), Clarke (2002), Srinivasan (2002) and others argue for community specific metadata and knowledge organization based on the socially constructed and contextual...
nature of knowing and understanding the world. Srinivasan (2012; 2017) labels this approach “fluid ontologies”, a knowledge organization framework that is used to design a digital library in a locally appropriate manner, evolving and changing along with the community.

The development of digital libraries with Indigenous communities is particularly challenged by the fact that the technical platforms commonly used for developing them are, at their core, based on a western approach to knowledge organization (Christie 2004; 2005). Nakata (1997; 2002; 2007) explains that the digital environment is a space where Indigenous and non-Indigenous knowledge systems come into contact and where there is often tension as interactions are negotiated. He argues, however, that if Indigenous peoples are effectively and actively involved in the development and definition of the knowledge organization underlying a given system, then the power and promise of digital platforms to meet the needs and interests of the community can be achieved. While Indigenous community driven knowledge organization systems and practices have been utilized in several cultural heritage digital libraries in Australia (Bow, Christie, and Devlin 2015), New Zealand (Lilley 2015), and North America (Holland and Smith 2000), little research exists on knowledge organization practices of the Inuit in western Canada and how they can inform the development of knowledge organization systems and digital libraries (Farnel et al. 2017; Hennessy et al. 2013). The goal of this participatory, community based study is to collaboratively develop a culturally appropriate metadata and knowledge organization framework for the Inuvialuit Digital Library of cultural resources (Digital Library North 2017).

2.0 Background

The Inuvialuit Digital Library (https://inuvialuitdigitallibrary.ca/) was initially developed as part of the Digital Library North (DLN) project, a four-year collaboration between the Inuvialuit Cultural Centre Pitquhiit-Pitquisiit (ICC) and communities within the Inuvialuit Settlement Region (ISR) in northwestern Canada, and researchers at the University of Alberta (Edmonton, Alberta, Canada), to develop a digital library infrastructure to support access to cultural resources. The research was contextualized in six key areas, one of which was the development of a comprehensive, culturally aware and appropriate metadata and knowledge organization framework.

To provide some context, the ISR (Figure 1) was designated in 1984 in the Final Agreement between the Inuvialuit and the Government of Canada.
The region covers approximately 91,000 km² in the western Arctic region of what is now Canada. The six communities in the region are Aklavik, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, and Ulukhaktok. The population is roughly 6,500, with more than half (3,400) located in Inuvik. The language of the Inuvialuit is collectively known as Inuvialuktun, which comprises three related languages: Sallirmiutun, Uummarmiutun, and Kangiryuarmiutun (Inuvialuit Regional Corporation, 2017). While “the region has an immensely rich culture and history, its geographic remoteness poses challenges for enabling easy access to cultural heritage resources” (Farnel et al. 2016, 3). The overarching goal was to help alleviate this challenge through the development of a digital library.

3.0 Methods
Developing knowledge organization systems for Indigenous cultural heritage digital libraries requires multidisciplinary theoretical and methodological frameworks that take into account the cultural nuances of Indigenous knowledge creation, sharing, and dissemination. The definition and application of the metadata and knowledge organization framework for the Digital Library was an iterative process that incorporated culturally appropriate methods and made use of a number of information sources. A first source of information was the proposed content of the digital library itself. A second source of information was a series of interviews with the staff at the ICC who are the stewards of these resources. A third source of information was a cross-cultural, cross-disciplinary, cross-national review of the academic and professional literature to understand what had been tried and had been shown to be successful and applicable in related projects with Indigenous communities. A fourth source of information was a review of existing digital library platforms to understand their strengths and weaknesses in this given context. The fifth and final source of information was the community itself. Information was gathered from a cross-section of the community, including elders and youth, language and culture instructors, and members.
of the community at large. Information was gathered through means appropriate to this community context, including formal interviews and surveys, demonstrations and open houses, informal and targeted conversations, and user testing and usability sessions.

The information gathered through these different activities was analyzed in order to derive dominant categories and themes. Coding was both deductive and inductive. Deductive coding reflected the main research areas of the project; inductive coding reflected the themes emerging from the information itself. Categories and themes were incorporated into the metadata and knowledge organization of the Digital Library, and tested and assessed by the community. Revisions and changes were made based on community feedback, and then tested again. There was a continuous feedback loop to ensure the framework was reflective of community interests and needs as they change and evolve over time.

4.0 Examples

Cultural constructs such as language and dialect, the importance of place and resources associated with it, as well as visual interfaces have been identified as important to the ISR communities. The community driven and culturally relevant metadata and knowledge organization framework that underlies the Inuvialuit Digital Library can be seen in specific examples of metadata use and display, interface design, and content organization. The following examples highlight some key aspects of the framework as it has evolved to date.

A key message from the community has been the importance of one or more means of browsing the Digital Library. In fact, a slight preference for browse over search has been indicated. The ways in which users can explore the collection have therefore been a topic of much discussion throughout the development process. Early discussions resulted in a home page that allowed for browsing by type and collection, as well as by featured images or exhibits.

Over time it became clearer that there were certain key pathways into the Library that the community would like to see privileged. Figure 2 shows the current version of the home page which has the most important pathways, such as places and language resources, more prominent, with the additional pathways of resource type and a featured image still available.
Given that the ICC’s mandate is language and culture revitalization, language learning resources, many developed by the Centre itself, represent a substantial portion of the overall Library and are seen as critical resources for highlighting. Initially, language resources were simply noted as one type of collection, accessible through browse by collection or by type, and the landing page had a simple structure of labelled images for each language (Figure 3).

However, as discussions continued our community collaborators discussed how they would like to do more with these collections. Not only did they want them to be a more prominent pathway into the Library, they also wanted to add additional contextual information to the landing page. The current version of the language resources landing page (Figure 4) is much richer in content as it includes information about each language and shows a map of the areas in the region where each is spoken, and clicking on any of the language names takes the user to a listing of all the resources dealing with that language.
The Inuvialuit, like all Indigenous peoples, have a strong connection to land and place. For this reason, there has been strong interest in the ability to browse the Digital Library content by place. An early version of this functionality allows the user to find a single item on a map (Figure 5) and click through to view it, and from there use the metadata in the record to browse other items associated with that same place.

This functionality is well liked and is still available in the Library. However, this was not quite what the community had in mind. What has been described is the ability to start your browsing with a map, and to narrow into specific places and find all items associated with it. Figure 6 shows an interim version of this which is currently part of the Library. At the moment, this map includes only the six community names. If a user clicks on a community name (e.g., Ulukhaktok), they will be taken to a set of items with that place in the metadata. The Inuvialuit Regional Corporation (IRC), the ICC’s parent body, is currently working on a traditional place names map which will be much, much
richer than the one currently in use. The plan, once this map is complete, is to use it in place of the one currently in use in the Digital Library.

Figure 6. Current map based browse and results from clicking on Ulukhaktok on the map

An important component of a knowledge organization framework is the choice of metadata elements used to describe the resources, as well as what those elements are called, and what they contain. This is no different in the case of the Inuvialuit Digital Library, and developments in this area have been a large part of the community driven process.

With many of the resources in the Library having a linguistic aspect, the ability to capture Language and Dialect, as well as Original Dialect in cases where there was a translation, was identified as critical from the earliest days of the project. The ability to see this information immediately for any resource resulted in its prominent place on any item screen, and the desire to make it easy to find other resources with the same language or dialect prompted the metadata element to be made browsable.

With the cultural importance of place and land, family and community, the ability to capture in the metadata the places and people associated with a resource is critical. Early input from the community led to the renaming of elements to make them more relevant and usable; Creator and Contributor were combined into a single element and renamed People; Spatial Coverage was renamed Places. The Inuvialuit, like all Indigenous peoples in Canada, are victim to ongoing efforts to erase their culture, heritage, and language, including traditional names for people and places. These names and the traditions around them are being reclaimed by the community, and so including them in the metadata for resources in the Digital Library is extremely important. However, we have also heard of the importance of retaining in some way the colonial forms as well, as there are still in use and do represent an important part of the history of the Inuvialuit. And so a balance is struck, with the metadata including both but privileging the traditional. And the framework is also flexible enough to account for alternative spellings and dialect variations. Figure 7 shows these various aspects of resource description.
A further aspect of the metadata description to highlight deals with the ways in which the subject matter of the resource is described. The community recognizes the value of using existing vocabularies and term lists for making the Library usable and sustainable. But there is also strong interest in being able to use the local language where and when it makes sense, and to allow for spelling and dialect variations as well. And so a growing local list of such terms is in use in the Digital Library, as can be seen in the description in Figure 8, which includes the local English and Inuvialuktun terms for parka.
5.0 Conclusion

The most powerful experiences with digital collections occur when the knowledge structure and architecture are harnessed to the interests and needs of the community. The metadata and knowledge organization framework for the Inuvialuit Digital Library, and the collaborative methods used to develop it, demonstrate that knowledge organization is communication, understanding, and development. Noted Maori scholar Linda Tuhiwai-Smith reminds us that “the collective memory of imperialism has been perpetuated through the ways in which knowledge about Indigenous peoples was collected, classified and then represented in various ways … through the eyes of the West, back to those who have been colonized” (2012, 31). A community driven metadata and knowledge organization framework enables the Inuvialuit to tell the story they want to tell, in the way they want to tell it, pushing back against the story being told by others, re-centering the community and putting control back where it belongs.

References


Hudon, Michèle. 1997. “Multilingual Thesaurus Construction—Integrating the Views of Different Cultures in One Gateway to Knowledge and Concepts.” Information services & use 17, nos. 2/3: 111-123.


