Photography as a legitimate technique for domain analysis in Knowledge Organization

Abstract
In KO research, it is broadly understood that visualization offers the advantage of providing a graphic overview of a domain (Smiraglia 2014, 95). This paper argues that in addition to citation analysis and other methods of visualizing domains, photography is a legitimate data collection and analysis technique for accomplishing KO research. Findings from a study of occupational classification, in the context of employment support for newcomer professionals, demonstrate that photography can help to generate themes and describe the character and texture of a domain as well as what influences it.

1. Introduction
Recently, the Sixth North American Symposium on Knowledge Organization (NASKO 2017) contemplated visualizing knowledge, knowledge organization, and knowledge organization systems. Clearly, different forms of visualization can lead to navigational maps and some recent examples include citation analysis (Smiraglia 2017 in ibid.), cladistic visualizations (Campbell and Mayhew, 2017 in ibid.), knowledge graphs (Zhao, Ma and Xia 2017 in ibid.) meta-theoretical visualizations (Araujo, Tennis and Guimarães 2017 in ibid.), along with node-link diagrams and cover images (Hook and Gantchev 2017 in ibid.). As a collectivist approach that recognizes experience is shaped by social and cultural communication, domain analysis takes the unit of analysis beyond the individual to the group level and looks toward characteristics of the environment (Hartel 2003). Hence, in knowledge organization (KO) research, among the techniques for visualizing domains that appear most often in the literature, citation analysis is considered a valid form of visualization in KO (Smiraglia 2014). Visualization offers the advantage of providing a graphic overview of a domain (Smiraglia 2014, 95). This paper describes data collection and analysis techniques to position photography and photographs as another useful technique for accomplishing KO research.

2. Context
The context of this investigation is a completed study of Canada’s national occupational classification (NOC), part of a genre of state sponsored standard classification systems used in labour markets around the world. The study sought to describe norms, values and expectations expressed in relation to the NOC, and asks how these may be represented to people interested in knowledge organization systems and information studies. The study was set in a not-for-profit organization that supports the provision of services to newcomer professionals within a network of community
service providers and employers in the local labour market. As a KO system that is constructed through consultation with a broad group (Howarth and Hourihan 2014), it therefore demands a collectivist approach like domain analysis.

3. Methods

The study is characterized by fieldwork methods (Sandstrom and Sandstrom 1995) that comprised documenting participant observation (Baker 2005; Spradley 1980); through ethnographic interviews (Spradley 1979) and photography (Hartel and Thomson 2011). Participant observation involved the researcher in regular attendance at the fieldwork site over a four-month period to learn about the ways occupational classification is operationalized amidst organizational activities. During this time the researcher gathered over 150 photographs.

The researcher took photos largely spontaneously throughout the field as long as discretion and maintaining trust permitted. Each day of fieldwork was consistently and discretely documented in photographs taken with a mobile phone. Each evening after fieldwork photos were downloaded on the researcher’s personal computer. The corpus of photographs was also professionally printed on photographic paper. The intent was to visually document her own presence in the research setting as a way to enrich fieldnote writing practices (Emerson, Fretz and Shaw 2011) and to expand the dataset by eliciting something akin to alternative documents (Weissenberger, 2015). Through analysis of images and text the role of photography as a technique for eliciting themes from the body of research data became increasingly relevant.

4. Photographs in data collection & analysis

Findings pertinent to contemplating the researcher’s role as a participant observer in this case were revealed through photos taken amid constraints of privacy and non-disclosure. Although the photos were collected with sensitivity to tips recommended by Hartel and Thomson (2011), they were at times secretive or seemingly non-sensical.

Later, when participant observation was complete and the researcher had removed herself from the field, the rich detail and diversity of the photographic inventory led to inventing several codes for the data. Sorting the corpus of 150 photos was integral to developing analytical themes throughout the writing process. Photos were coded in conjunction with the other written and collected documentation that formed the data set.
Among emergent themes that I identified, were those that relate well to Lee’s (2003) framework of immediate, adjacent and outside space, where spaces are conceptualized as locations where “a great quantity of material information sources” is contained (ibid. p. 427). This framework became analytically useful as I sorted through the photographic and textual documentation produced in this study. Preliminary analysis of photos aided in identifying themes, in particular locating the NOC among a variety of personal, organizational, and institutional spaces.

The least obtrusive and most abundant photos in the inventory feature personal workspace. These spaces, exemplars of which are featured in Figures 2 and 3, are characterized by documents, desks, screens indicate common structures of office work.
Thematically, the images above were coded initially as *spaces inside the office*. As an ethnographer documenting fieldwork, photography proved to be a helpful technique for documenting *immediate information space* (Lee 2003; Hartel and Thomson 2011) and reflecting on the nature of this role and its relationship to the research data. The photos demarcate the space of participant observation. It is where up-close analysis of the NOC took place, among documents, reports, spreadsheets, on the local network.

This up-close work was eventually differentiated, by means of visual analysis, from other types of fieldwork encounters. Images of meeting spaces, and hallways indicate additional structures within where I participated. Through inductive analysis I grouped these photos with fieldnotes depicting meetings, conversations and interviews. Figures 4 and 5 feature meeting spaces away from the workstation but contained in the organization’s offices.

![Figure 4: Meeting room](image1.png)  
![Figure 5: Kitchen](image2.png)

Here photos deepen recall of the sociality of the office space where, for example, colleagues shared travel stories in the kitchen over snacks. Standing together at the map of local restaurants, we read short-hand reviews and recommendations for local lunch places. Together with employment coaches from partner agencies I learned about using the “IT system” and “coding” mentees with the NOC. These photos feature typical materials and spaces of office workplaces ranging from tables and chairs to microwave ovens, laptops, notepads, maps and sticky notes. Unlike the workstation photos, they
depict situations where people gathered together. Through a combination of inductive and deductive analysis these spaces, I began to relate these shared areas to the notion of adjacent spaces (Lee 2003).

Photographs that were more difficult to capture include those I took at offsite events. I began by collecting photos of rooms where events took place. These I collated with jottings taken at events and fieldnotes written up after events. In one instance attendance at a mentoring event was lower than expected because newcomers were unable to find the location. This signaled a need to modify my approach. I began to take photos of getting into the fieldsite, in order to reflect on the things I take for granted about navigating the local labour market. I had taken for granted that I know how to find places and how much time under normal circumstances to allow for in order to reach a destination. This data collection effort produced some mundane pictures of public transit escalators, passageways, lobby areas and street corners as seen in Figures 6 and 7. Figure 6 features a decorated Christmas tree and an iconic winter scene in stained glass. Figure 7 features scene I came upon at a busy intersection in the city.

As the weeks went on I modified my approach and began to take photos of my journey to fieldwork. Events took place in space donated to the employment council by corporate partners. Some meeting spaces were in bank buildings in the city’s downtown core. Other times events were held in space at a local university or a public television studio. My initial code for photos taken on the way to fieldwork was transitional space. While some of these spaces were adjacent to fieldwork events, and literally outdoors,
it remains unclear to me if or how they fit the notions of *adjacent* or *outside* information spaces.

Finally, my initial analysis lead to grouping photos of events attended by but not organized by members of the fieldsite organization. For example, hosting a table at an employment information fair for newcomers to Canada and a discussion panel concerning changes to provincial immigration policy are featured in Figures 8 and 9.

![Figure 6: Employment Fair](image)

![Figure 7: Community Centre Panel](image)

Photographs served as an analytical resource for elaborating on the characters and textures of these spaces. In a sense, Lee’s concept *outside* information space may help delineate comparisons with the happenings taking place among *inside*, *adjacent*, and *transitional* spaces that inform this domain. Photos assembled under this theme feature chairs, tables, audiovisual media and food catering, the typical accoutrements of corporate workspaces in a large city. When analyzed in relation to my fieldnotes, I began to draw distinctions among private and public spaces, to ponder the dimensions of accessibility of such work-related spaces. Were it not for my role as participant observer, it would be unlikely experience for me to see the interiors of these spaces or to interact with the people there.

4. Discussion

In knowledge organization, research citation analysis and concept mapping are techniques that offer insight into the social context of research. Part of their appeal aligns with objectivity, and as such they effectively represent what Talja *et al.* (1999) suggest is a normative approach to naming entities at play in a domain. Interpretive approaches to photographic data can highlight the complexity of studying knowledge
organization. This collection of photographs, organized along different dimensions becomes a resource for not only taking inventory of materials present in spaces, but also for depicting social situations and events in the research process and experience. To that end it expands the experience of the researcher toward different possible viewpoints. Simple comparisons abound, including how private desktop space may be contrasted with the open space of a social event. The private office space may be compared to the private meeting space. The sociality of a webinar may be compared to the sociality of a mentoring event. The concrete architecture featured across the photos may be synthesized with the abstract architecture of events and encounters. Photography enriches the conceptual grounds for interpreting the knowledge organization system, the object of study. In effect, adding a 
\textit{corpus} of photographs to the dataset aided in pulling the researcher’s focus outward from term-based and activity-based analysis toward the more challenging task of social analysis. The important up-close view of classification work is made relevant to socio-cultural analysis by adjusting the aperture of the view away from the text and terms, away from the cognitive focus of activity to focus in on broader spaces of action.

\textbf{5. Conclusions}

Participant observation is a method enriched by photography. Photographs simultaneously act as documents and memory aids in fieldwork; act as analytical resources for evoking themes and producing a narrative description of knowledge organization practices; and play a role in communicating research findings.

Photography is an important technique featured in studies of immediate information space (Hartel 2007; Thomson 2010). Andrade, Urquhart and Arthanari (2015) claim researchers could make better use of images as a source of data by increasing the use of visual material, by systematically unpacking visual data and by collecting both primary and secondary visual data for analysis as well as later presentation. In their highly influential monograph, Bowker and Star advocated broadening the theoretical fabric of studying categories to studying large-scale systems where the analysis of classifications “knits together to form the texture of a social space” (1999, 286). Fully cognizant of the challenge of seeing relationships among people, things, moral order, categories and standards, they suggest a good map and compass are needed. The map and compass offer an apt metaphor for research design and theoretical framework. To this metaphorical tool kit, I propose that we had a camera. The camera, in the metaphorical sense, affords the methodological inversion needed to study extant knowledge organization systems. Whereas the range of visualizations that exist to \textit{produce} maps of scholarship have come to define visualization in KO research, I propose that a camera, taken into the information spaces of the researcher can re-invigorate the research experience by offering additional means for visualizing research data. This study also suggests photography is a legitimate technique for domain analysis.
and can contribute to extending knowledge organization research through methodological diversity.

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References


