

iConference 2020 SIE Proposal [1000 words]

Title: Putting information behaviour on the cognitive map: exploring information seeking behaviours of academic researchers

Organizer(s):

Yaming Fu, University College London

Charlie Inskip, University College London

Elizabeth Lomas, University College London

Key Participants: All of the organizers

Abstract: [150 words]

This Session for Interaction and Engagement (SIE) is aimed at exploring academic researchers' information seeking behaviour utilizing cognitive mapping. Cognitive mapping is a visual method that enables individuals to express personal thinking and reflect problem solving by drawing their perspectives on an issue in picture and words. This SIE will focus on how academic researchers from different cultural backgrounds draw their information seeking behaviour on paper. The work will be coded and discussed in terms of any findings on synergies and differences in behaviours. The value of using cognitive mapping and coding mapping for information studies and the wider research domain will be debated.

Description: [1,000 words]

Purpose and Intended Audience

Cognitive mapping that is derived from geography and psychology field, is a way to get visual representations of how people utilize or think about a particular resource or place (Kitchin & Freundschuh, 2000). It is developed to represent personal perspectives or thinking on particular topic or objects. By drawing pictures of their understanding of certain physical or digital objects, this method helps people better comprehend, deal with and describe the 'information' they encounter, no matter whether this information is a place, symbol or any form of knowledge (Graham-Cagney, 2014). In the Library and information studies (LIS) field, cognitive mapping has been adopted as a way to learn about users' information behaviour through their interactions with resources and services provided by the physical or digital library (Asher & Miller, 2013; Duke & Asher, 2013; Horan, 1999; Lanclos, 2013). Usually, post discussion or interview is conducted with cognitive mapping

activities to allow participants explain their drawing and discuss the topic further. Visual research methods have provided unique insights into how people see the world. “We live in a visually structured culture” (Spencer, 2011, p. 11), and visual forms have the potential to reveal something about sense-making process and meanings both culturally and socially. It has been found to be a useful approach in anthropology, sociology, ethnography, and social geography studies. In LIS we may find clues about attitudes, social beliefs, conventions, context and other aspects of social life from visual representations complementing other forms of data (Greyson, O’Brien, & Shoveller, 2017; Hicks & Lloyd, 2018). Visualisation is treated as an elicitation tool that facilitates an explanation that is difficult to express in words (Given, O’Brien, Absar, & Greyson, 2013).

Cognitive mapping, like other visual methods, is a way to expand and guide further study of objects. In recent practice, its application is focused on mapping how users make use of and find their ways in the library context, providing clues for librarians on how to improve the library environment. However, it has not been employed widely to explore the diversity of information seeking behaviours, in particular with academic researchers. Academic researchers are a significant LIS population as they are a key user groups of library facilities. Multiple techniques have been employed to help learn about their information seeking behaviour, including surveys (Hemminger, Lu, Vaughan, & Adams, 2007) and interviews (Ellis, Cox, & Hall, 1993), with a focus on comparing social and scientific researchers’ seeking behaviour or evaluating the transition of information seeking behaviour of a specific group of researchers. These methods are valuable in evaluating information seeking behaviour in a qualitative or quantitative way; while with visual methods, it can be explored from a different aspect, revealing more of the diversity and complexity of information seeking behaviour. Context and personal characteristics are important variables in information seeking behaviour and there is a complex synthesis resulting from culture, social conventions and other factors (Agarwal, 2017). There is some value in looking at this in order to get a better understanding of information seeking behaviour and identify where cultural diversity may lead to differences. Cognitive mapping, as a visual method, has the potential to meet this goal because it is a straightforward form that enables researchers to identify patterns and commonalities and it helps capture rich data in a relatively short time frame (Hartel & Foster, 2012). As for the analysis, previous cognitive mapping research has focused on the quantity of codes and used a

frequency/position (F/P) index to analyse the findings based on the frequency and the drawing sequence (Asher & Miller, 2013). It can also focus on the meaning of codes and use open coding to analyse (Miles & Huberman, 1994), which explains and interprets the drawing from coder's understanding. This way of analysis may reveal the different ways of understanding, analysing and describing visual-form data.

The purpose of this SIE session is (1) to explore the information seeking behaviour of academic researchers (digitally or physically) from different backgrounds; (2) identify cultural diversity in information seeking behaviour from cognitive maps; (3) discuss how cognitive mapping can be used as a research method when researching information behaviour. It is also intended to engage participants in sharing their experience of seeking academic information to fulfill information needs in varied contexts.

Proposed activities including agenda, ramp-up (development), and follow-through

PART ONE: introduction (15 minutes)

The organizers will briefly introduce cognitive mapping as a research method. Examples from previous research will be given to show how it is used in practice in information studies.

PART TWO: cognitive mapping and coding (20 minutes)

In the second part, participants will draw cognitive maps about their information seeking behaviours as academic researchers individually in 6 minutes. After drawing, they will be asked to code and analyse their cognitive map by themselves. Some direction will be provided.

PART THREE: discussion in groups (40 minutes)

Participants then break into facilitated groups in order to discuss:

- (1) What they draw in their cognitive maps;
- (2) How they analyse the cognitive maps;
- (3) How the cognitive mapping can be used to learn about information behaviour.

PART FOUR: conclusion (15 minutes)

After the groups have fed back their insights and experiences of using cognitive mapping to the wider group the organizers will summarise these and discuss how they help to teach us about information behaviour. The potential of cognitive mapping in information studies will be summarized.

Follow through

We will encourage our participants to post their cognitive maps online, be that on Twitter or other platforms. All the cognitive maps will be gathered either physically or digitally with the permission of participants for further analysis leading to the publication of a report.

Relevance to the Conference/Significance to the Field

The session explores cognitive mapping as a new way of learning about information behavior, which is able to generate rich visual data in a short time. Visual methods are extending their value in information studies as a strong supplement with other methods to enrich our understanding of how people seek for information. The varied presentation of cognitive maps also indicates the diversity of expression and has the potential to teach us about cognitive and cultural diversity. This interactive activity will also appeal to participants to express their opinions in a creative visual form and to give them insights on the topic of information behaviour.

Duration

One 90-minute session

Special Requirements

A room with projector and presentation screen; some color pens with white papers that participants can draw their views. We anticipate this session would be suitable for 10-20 participants.

References

Agarwal, N. K. (2017). *Exploring Context in Information Behavior*.

<http://doi.org/10.2200/S00807ED1V01Y201710ICR061>

Asher, A., & Miller, S. (2013). *So You Want to Do Anthropology in Your Library? or A Practical Guide to Ethnographic Research in Academic Libraries*. Retrieved from

<http://www.erialproject.org/wp-content/uploads/2011/03/Toolkit-3.22.11.pdf>

Ellis, D., Cox, D., & Hall, K. (1993). A comparison of the information seeking patterns of researchers in the physical and social sciences. *Journal of Documentation*, 49(4), 356–369. <http://doi.org/10.1108/eb026919>

Given, L. M., O'Brien, H., Absar, R., & Greyson, D. (2013). Exploring the Complexities of

- Information Practices through Arts-Based Research. *Proceedings of the ASIST Annual Meeting*, 50(1). <http://doi.org/10.1002/meet.14505001003>
- Graham-Cagney, A. (2014). Cognitive Mapping. In *The SAGE Encyclopedia of Action Research* (pp. 113–116). London, UK.
<http://doi.org/http://dx.doi.org/10.4135/9781446294406>
- Greyson, D., O'Brien, H., & Shoveller, J. (2017). Information world mapping: A participatory arts-based elicitation method for information behavior interviews. *Library and Information Science Research*, 39(2), 149–157. <http://doi.org/10.1016/j.lisr.2017.03.003>
- Hartel, J., & Foster, N. F. (2012). State of the Art/Science : Visual Methods and Information Behavior Research. *Proceedings of the Association for Information Science and Technology*, 49(1), 1–4.
- Hemminger, B. M., Lu, D., Vaughan, K. T. L., & Adams, S. J. (2007). Information seeking behavior of academic scientists. *Journal of the American Society for Information Science & Technology*, 58(14), 2205–2225.
- Hicks, A., & Lloyd, A. (2018). Seeing information: Visual methods as entry points to information practices. *Journal of Librarianship and Information Science*, 50(3), 229–238.
<http://doi.org/10.1177/0961000618769973>
- Kitchin, R. M., & Freundschuh, S. (2000). *Cognitive Mapping: Past, Present, and Future*. London: Routledge.
- Miles, M., & Huberman, M. (1994). *Qualitative data analysis : an expanded sourcebook* (2nd ed.). Thousand Oaks; London: Sage.
- Spencer, S. (2011). *Visual research methods in teh social sciences: awakening visions*. Routledge.