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The actuality of determining information need in geographic information systems and science (GIS): A context-to-concept approach

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ABSTRACT

Although context has been identified as the key to the manifestation of information literacy (IL), little is known about the actual context of IL in disciplinary areas. This is because disciplinary studies of IL have focused mainly on people's conceptions of IL, not on their lived teaching and learning practices. Introducing university assignments as a contextual construct for disciplinary studies of IL, this study demonstrates how students' and educators' conceptions and experiences of real university assignments and their constructive participation in conceptualization of IL helped to uncover the actual nature of information need in the discipline of geographic information science/system (GIS) and to gain a better understanding of the concept of, and requirements for, determining information need in this discipline. Adopting an embedded case study design and a participatory approach for fieldwork, the data were mainly gathered from 27 semistructured interviews focused on GIS students' and educators' lived experiences of university assignments and their reflections on various aspects of IL in a master's degree GIS program jointly delivered by universities in the UK and USA. Each learning and teaching experience was treated as a unit of analysis. GIS assignments were found to be geospatial, technology mediated, subject free, and unique in requirements. Each characteristic uncovered a new facet for the concept of information need in GIS. Findings indicate that unless students have understood the multi-faceted nature of information need, they may fail to distinguish the various ways in which gaps may be addressed when dealing with GIS assignments. The context-to-concept approach proposed in this study can be of value to both IL researchers and practitioners who seek deeper insights into the nature of IL, especially those interested in the customization of generic models of IL to the actual needs of university programs.

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1. Introduction

Context has been highlighted as the key to the manifestation of information literacy (IL) (Dorner & Gorman, 2011; Hoyer, 2011; Leckie & Fullerton, 1999; Lloyd, 2006, 2007; Nazari, 2011; Nazari & Webber, 2012; Webber, Boon, & Johnston, 2005; Wu & Kendall, 2006). However, methodological practices that focused more on the phenomenon and not on the context within which the phenomenon is experienced have resulted in a dearth of deep insights into the actuality of IL as practiced in real-life university programs. Instead of focusing on people's experiences of IL, as is the dominant approach in those types of exploratory studies, the present study offers a context-to-concept approach which recommends studying people's experiences of the contextual constructs of the phenomenon. It conceptualizes the nature of information need and the process of determining information need in the study of geographic information science/system (GIS) as observed from students' and educators' learning and teaching experiences of GIS assignments in a real-life GIS program.

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2. Problem statement: need for moving from “typicality” to “actuality” in the disciplinary research of IL

Higher education models of information literacy have been designed to help students dealing with their information need when accomplishing assignments or learning a subject. However, the methods and approaches used to discover the actuality of the information need across disciplines do not address the actual nature and characteristics of the university assignment as experienced in real-life university programs (Julien, Given, & Opryshko, 2013). Many of the IL standards and curricula listed on the Association of College and Research Libraries (ACRL) IL wiki (Association of College and Research Libraries, 2014) are the result of community meetings representing librarians' and disciplinary educators' perspectives of a typical assignment, rather than an actual assignment. Addressing the complexity of an actual assignment requires a different path, a context-to-concept approach, to understand the real IL needs of students across the discipline. By exploring the actual learning and teaching practices of a subject in a real-life university program, it is possible to move away from the typicality of what has been defined as university assignments across disciplines, and to see the actuality of the assignments as experienced or

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