Collaborative Information Behaviour of Engineering Students in Group-Based Design Projects

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Abstract – Collaborative information behaviour is a research area that studies when two or more actors identify, seek, search, and use information to accomplish a task. This condensed paper reports on a longitudinal study that investigated the collaborative information behaviour of engineering students in assigned design projects.

Keywords: Information behaviour, collaborative learning, engineering education, design projects.

1. INTRODUCTION

Collaborative information behaviour is an emerging area in information science that studies groups' information behaviour while accomplishing tasks. This recent study investigated the collaborative information behaviour of engineering students in assigned design projects in order to explore the interaction between the project as the learning task and students' information behaviour. The aim of the study was twofold: to analyze the characteristics of the project as a learning task that affects the information behaviour of engineering students, and then to understand the collaborative information behaviour of these students in their projects.

2. RESEARCH DESIGN

The research has been designed as a qualitative longitudinal study using a constructivist grounded theory methodology in two different but related studies undertaken in successive academic years. The main research method consisted of a web-based survey, bimonthly semi-structured interviews with eight students, and the project deliverables for six different project groups. Project deliverables included weekly reports that described group and project activities, and the projects' interim and final reports. Data in the first case Preliminary results of the first case study have been discussed in a previous paper [1].

3. FINDINGS

Learning tasks associated with engineering design projects are information-intensive tasks; information seeking, searching, and use have been ongoing needed

activities during the lifespan of these projects. There was found to be a strong relationship among learning task stages and phases, task complexity, and collaborative information behaviour. Collaborative information behaviours occurred variably at different project stages and levels, and their nature were task-dependent. Students' perception of task complexity triggered collaborative seeking and use of a variety of information sources, with preferences for information from perceived subject-experts. It was also found, in many situations, when students' perceived task complexity increased, their information behaviour tended to be more collaborative.

It was critical for groups to construct and share a collaborative situation awareness in order to maintain and regulate their activities in information seeking and use; this shared awareness was enabled by students' interactions in their group meetings or their use of collaborative software tools for information sharing. Learners sought and created meaning from information through collaborative information synthesis over long intervals by prioritizing, judging relevance, and building connections of information.

4. CONCLUSION

The study resulted in a holistic conceptual framework illustrating the dynamic interplay of the components of task-based collaborative information behaviour in learning tasks. Collaborative information behaviour was conceptualized with details in its three distinct but interrelated dimensions: (1) learner's knowledge, (2) learners' activities and interactions, and (3) information objects; the representation of interdependence of these three dimensions confirmed the complexity of collaborative information behaviour as a human behaviour that cannot be investigated by focusing on a single dimension and eliminating the other ones.

References

- [1] N. Saleh and A. Large, "Collaborative information behaviour in undergraduate group projects: A study of engineering students," presented at the The annual conference of the American Society of Information Science and Technology (ASIS&T), New Orleans, LA, 2011.