Constructing Learning Conversations:  
A Study of the Discourse and Learner Experiences of Online Synchronous Discussions

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I declare that this thesis is my account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

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ABSTRACT

The aim of this qualitative case study is to gain greater insight into the impact of online synchronous (chat) interaction on the learning process from a sociocultural constructivist perspective in the context of an online undergraduate unit. Given the sparse research on the effectiveness of chat interaction in supporting knowledge construction processes, few appropriate analytical methods available for examining educational chat discourse, together with the pedagogical imperative to determine the extent to which the real-time computer-mediated communication (CMC) mode satisfies student learning needs, this study fills the gaps in current research by examining the impact of chat interaction in facilitating participation, knowledge construction, and quality of online learning experience of two different online tutorial groups.

Although the literature largely regards chat interaction as fragmented and characterized by interactional incoherence that disrupts the dialogic knowledge construction process, findings from this single-embedded case study of tutorial groups 1 and 4 (G1 and G4), involved in weekly critical discussions on set-readings over 11 weeks (one semester), show that chat interaction is more structured and complex than the literature suggests.

This study utilizes a new methodological design that integrates discourse and social network analytical methods which are triangulated with self-reports of learning experiences from an online survey instrument. The application of a refined Exchange Structure Analysis coding instrument (Kneser, Pilkington, & Treasure-Jones, 2001) with social network analysis (Wasserman & Faust, 1994; Scott, 2000) to transcripts of chat interaction shows educational chat discourse to be coherent; reflecting the typical structure of pedagogical classroom exchanges. Findings from this study further establish that chat interaction enables participation opportunities in tutorial discussions which are valued as important, with variations in levels of participation within and between groups suggesting a pattern of active and peripheral participation which is not necessarily detrimental to learning.

Chat interaction is also found to facilitate collaborative sharing of individual understandings and critical negotiation of meaning which are characteristic of the knowledge construction process, in the form of information-sharing and topic development phases in the exchanges of both groups. Although it is beyond the scope of this study to determine the exact form of knowledge constructed, individual and mutual appropriations of shared knowledge through chat interaction are reported by both groups.
A between group comparison of available tutor scaffolding reveals consistently weak G1 tutor presence compared to strong G4 tutor support at the initial learning stages with gradual withdrawal of scaffolding over time. These results suggest differences in quality of online educational experiences which are confirmed by findings that compared to G1, G4 reported greater satisfaction with more chat tutorial factors; indicating an overall more positive, higher quality of experience with collaborative learning and group work processes afforded by the chat interaction.

With its methodological design, instruments, and findings, this study contributes to existing knowledge on online interaction, advances on previous studies regarding impact of chat interaction on learning, and offers directions for future work in the fields of educational technology, linguistics, and group dynamics in educational social networks. When extrapolated to comparable cases, findings from this study could guide the pedagogical design of collaborative-constructivist learning activities that takes into account the role of chat interaction in the construction of learning conversations.
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