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Perceived usability: foster students interaction through online synchronous chat

Cam Le Lam
University of Wollongong

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PERCEIVED USABILITY: FOSTER STUDENTS INTERACTION THROUGH
ONLINE SYNCHRONOUS CHAT

A thesis submitted in partial fulfillment of the requirements for the degree of
Master of Information and Communication Technology - Research

From

UNIVERSITY OF WOLLONGONG

By

LAM CAM LE

Bachelor of Business, Deakin University

SCHOOL OF INFORMATION TECHNOLOGY and COMPUTER SCIENCE

2006

STATEMENT OF ORGINAILITY

I, Lam Cam Le, declare that this thesis submitted in partial fulfillment of the requirements for the award of Master of Information and Communication Technology - Research, in the Faculty of Informatics, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification s at any other academic institution.

(SIGNATURE)

Lam Cam Le

28 August 2006

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Preface

Key words

Online chat, synchronous discussion, Computer Mediated Communication (CMC), online group discussion, blended learning, usability, satisfaction, perception, attitude, ease of use, usefulness, foster students engagement.

Structure of the thesis

The thesis is divided into three major parts. Part 1 presents the introduction, a broad overview and the objectives of the two case studies, their common settings and the overall findings of this research. It begins with a debate of the existing literature and the gaps in research followed by an explanation of the established framework for measuring usability. The methodology, limitations, findings and conclusion of case study 1 is described in part 2 of this thesis. While case study 2 is discussed in part 3, and finally the last chapter of the thesis discusses the contribution of this research to the literature and identifies opportunities for future research.

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Publications

The following publications have been prepared in the course of this research

1. Fuller, A. McFarlane P., and Lam K. (2002) 'Remote Collaborative Teaching for Computer Science Using Simple Technologies', Proceedings of the 32ndASEE/ IEEE Frontiers in Education Conference, Boston, M.A., 6 - 9 Nov 2002.
2. McFarlane P., Fuller A., Lam (C.L.) K., (2003) 'Remote Collaborative Teaching for Computer Science Using Simple Technologies', Proceedings of the AustWeb 2003, The Ninth Australian World Wide Web Conference, Gold Coast, Australia, 5 - 9 July 2003.
3. Lam C. L., McFarlane P., & Fuller A., (2003). 'Blended Learning Environment: students viewpoint toward interactivity with the offshore lecturer and their peers', Proceedings of the Cita 03, Kuching, Malaysia, 16-17 July 2003.
4. McFarlane P, Fuller A & Lam CL (2003) 'The POSITIVE Approach to Offshore Team Teaching'. Proceedings of the 3rd IEEE International Conference on Advanced Learning Technologies. pp 410 – 411.
5. Lam C L (2003) 'Fostering Students Interactivity through Online Synchronous Discussions: Student Viewpoint', Proceedings of SITACS Research Student Conference.
6. Fuller A., McFarlane P., & Lam C. L., (2005) 'Encouraging participation in electronic discussion forums', Proceedings of the WCCE Cape Town 2005 – 8th IFIP World Conference on Computers in Education conference proceeding, Cape Town, South Africa, 4 -7 July 2005

Abstract

Demand for innovative and accessible Western education throughout Asia has significantly improved the use of online teaching and support tools. Previous research studies of online education have focussed primarily on full online and distance education, and asynchronous tools for fostering communication. Few studies have explored blended learning strategies in an education environment using synchronous tools to support ongoing communication amongst students from South East Asia facilitated by their offshore subject co-ordinator.

This qualitative study explores South East Asian students' attitudes and perceptions to the usability of online synchronous communication and to determine the success of such a tool in fostering communication and supporting group interaction. The study comprises a group of 40 computer science students for Case Study 1 and a class size of 29 students for the second case study undertaking the same subject have agreed to participate in the research.

The triangulation method adopted for the two field studies has established that there are interrelationships amongst the three usability constructs in the context of this study. The usability constructs refer to the perceived ease of use, perceived usefulness and attitudes toward participation.

A combination of questionnaires, focus groups and observation techniques have been conducted; and the results show that students' perception and attitudes are influenced by the multiple and interrelated facets of the online group communication: the human-to-technology interaction, the human-to-human communication, and the capability of the initial studies have elicited the importance of motivation along with connection stability as significant influences on students' attitudes toward participation. The first case study identified the large group size, the fast speed of the messages posted, and the instability of the technology as key difficulties.

A revised methodology was applied to the second case study allowed a more stable environment for evaluating students' perceptions. A number of underlying interrelating group characteristics and individual attributes including technology and human factors that influence student usability and participation are discussed and presented in Case Study 2.

Contrary to the stereotype that Asian students are passive students from a South East Asian background in both case studies have been highly interactive during the online chat sessions. Evidence from the observations and questionnaire feedback showed that all participants contributed to the discussion and were heavily engaged with the live chat sessions. The majority of participants indicated that they value the opportunity to interact with the offshore lecturer, and to receive timely feedback to their queries.

According to student perceptions, the findings from the various data collection methods have shown that the medium being easy to use, a less confronting form of communication as well as useful for enhancing communication and learning objectives. Common themes across the two case studies include suggestions for greater clarity and quality of the messages posted; and that the pace of the message flow should not inhibit a student's ability to participate in the open dialog. The lack of visual cues means that no movement on the screen can lead to participants concurrently posting messages. This calls for the need to find a balance between too much activity and no activity, which could further improve the quality of participation.

Overall evidence from this research suggests that the interaction amongst the students is highly positive. The studies indicate that there is great potential for students from South East Asia to use synchronous chat, under this particular blend of learning, to actively participate and engage in their learning. This research provides a good foundation for further studies to evaluate and improve on the delivery of synchronous online tools for communication and interaction.