

## 学位論文の要約

学位論文題目 Exploring the academic use of social media as virtual classroom and designing structural equation model and test confirmatory factor analysis system in relation to social networking technology

(仮想教室としてのソーシャルメディアの学術的利用と、ソーシャルネットワーキング技術と関連した構造方程式モデルの設計と確証因子分析システムの検証に関する研究)

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The exponential growth of information and communication technologies have drastically changed the way we interact and communicate with each other, the way we work, learn and even engage in social activities. Second generation web-based technologies (Web 2.0) such as social media and networking sites have brought tremendous effects in every walk of human life in an unprecedented way worldwide. The social media technological effect is now reaching the educational settings because social networking sites rule the lives of millions of students of all ages. Social networks provide online platform that encourage the students to build virtual lives, make social relationships with others who share similar activities, interests, backgrounds. From elementary school to university level, social media is empowering students to share information in new ways and develop a new sense of social media community for educational practices. The needs and expectations of twenty-first century learners are changing rapidly and enormously. Indeed, new strategies of learning have started to attract the ongoing debate for inclusion of student-centered innovative web 2.0 technologies into different pedagogical practices. Many educators or educational researchers and practitioners all over the World are keen to implement social multimedia computing (social networking systems and computational games) into formal and informal educational purposes.

Information transfer and knowledge sharing accompanied by persistent openness and a great deal of voluntary collaboration with different stakeholders across geographical boundaries using multiple modalities, is what forces the exploration in this interdisciplinary field of informatics. The aim of this research work is to explore how online social media or virtual spaces influence

on students' perception, attitude, acceptance and academic behavior in relation to social-networking sites through motivation, achievements and self-efficacy. Facebook (a popular social-networking site) was used as a model social media platform. In order to perform this research work, the project was divided into three phases.

In the first part of this study, I conducted an empirical research study among the users of social media (University students in this case) in order to determine the potentials social networking technologies in education sector. A survey was carried out with 88 undergraduates, postgraduate and research students at University of Toyama, Japan to observe learners' perceptions and attitudes towards the usefulness of Facebook for online language learning. Data collected with the use of structured questionnaire from randomly selected students.

In the second part of this study, I constructed a research model based on existing literature on social-networking technology acceptance and behavior of students identified in part one. We designed a structural equation model and test confirmatory factor analysis system in order to better explain how students could utilize social networking system (Facebook) for educational purposes. Thus, we seek to examine the attitudes, perceptions and behaviors of Japanese students towards social-networking sites, and how students from non-English speaking backgrounds (especially Japanese students) at the University of Toyama perceive the use of Facebook for learning English as a foreign language.

Our Structural Equation Modelling system based Facebook model outline the relations among different types of independent, dependent variables and constructs. We tested our model using adequate fitting indices like Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Non-Normed Fit Index/Tucker Lewis index (NNFI/TLI) and Incremental Fit Index (IFI). The results of the proposed model confirmed the hypothesized latent structures and theoretical validity of probed factors. Conclusions drawn from this study might be useful to better understand the use of social network tools in educational contexts.

In the final part of this study, I created a Facebook based virtual classroom system to facilitate the teaching of English as a foreign language to students from non-English backgrounds (especially Japanese students). This study was conducted at University of Toyama and 24 students participated in virtual classroom course. The results were gathered through the students' online activities and participation in the virtual classroom course.

Lastly, based on the obtained results, recommendations on how this Social media system can be fully implemented for the benefits of the students and community at large are discussed.