Introduction

Social networking site and software (wikis, blogs, RSS, podcasts, media sharing, tagging, and more) have emerged as a major component of the web 2.0 movement. One of the world-leading learning 2.0 advocates, Dublin, Consultant, and Consortium (2008) suggested the array of web 2.0 social software tools, such as blogs, wikis, podcasts, video-casts, games, and simulations, are giving us powerful new options to collaborate, extend, enhance, and enable learning in an accelerated mode. Scholars suggested computer-supported collaborative learning can be enhanced by these web 2.0 tools because of three reasons (Awodele, Idowu, Anjorin, Adedire, & Akpore, 2009; Brady, Holcomb, & Smith, 2010; Chatti, Jarke, & Frosch-Wilke, 2007). First, it creates a personal learning environment. Rather than integrating different tools into a centralized system, the idea is to provide the learner with a myriad of tools and hand over control to him / her to select and use the tools the way he / she deems fit. Secondly, social software supports knowledge networking and community building. It takes a bottom-up approach and enables people to organize themselves into a network based on their preferences. These tools provide a powerful way to foster community building as users share, organize, discover, and look for what others have tagged and find people with same interests. Thirdly, it emphasizes a knowledge-pull model, the idea is to get content to people. RSS is a good example of a successful technology to bring content to users, once the user has subscribed to the feed source. Intelligent social search engines that build on user's recommendations, and reviews, filtering and rating also help to locate quality resources, services, communities, and experts. In the last few years, there has been an increasing focus on social software applications and services on knowledge sharing and collaborative learning.

Recognizing the potentials of web 2.0-based educational tools for self-directed learning, collaboration and social networking, the European Union launched the iCamp project in 2006 (Kieslinger, Fiedler, Wild, & Sobernig, 2006; Klobucar, 2008). The iCamp project was a research project from the 6th Framework Program of European Union (EU). It was designed to create an open, virtual learning environment with web 2.0 educational tools that support self-directed learning collaboration and social networking for higher education across Europe. Started from 2007, three trials with different foci and scales were implemented. The focus of first trial was on student collaboration across

borders. Self-directed learning component was added in the second trial. In the last trial, its main focus was social networking. Each of the trials was evaluated by comprehensive designed instruments, including surveys, interviews, digital archives, and automatic data logging (iCamp Consortium, 2006, 2007, 2008, 2009). Results from surveys show the most popular tool used by students who participated in the iCamp trials was blog, and the numbers of posts in groups were relatively low. In the second trial, collaboration activities were lower than expected and the tools (xoWiki a wiki implementation for OpenACS implemented based on xotcl-core) for joint work were not used as much as expected. The self-directed learning competencies of the students were generally low (Klobucar, 2008). In the third trial, low interaction within peer group diminished the possibility that team members might have developed a coherent understand of what other team-members are doing, with whom they are communicating and what type of problems they are facing. Some students expressed dissatisfaction with social communications with the peers and lack of community dimensions. The iCamp Consortium carefully reviewed empirical experiences and suggested lessons learned from each of the trial.

In all, despite some results indicated potential for social media tools, three trials failed to yield empirical evidence of multifarious impacts of building and involving in the intercultural virtual knowledge community. While the iCamp Space had created a web 2.0 intercultural environment for collaboration and social networking, why it didn't render promising results? What other factors need to be taken into account in planning and process implementation? The main purpose of this study is to review evaluation reports of these trials and explore the reasons why these trials did not yield the outcomes of collaborative learning in a web 2.0 environment. In particular, theoretical principles of activity theory are applied to examine the three-stage trials of iCamp project. Major components (subject, object, instruments, rules, community, division of labor, and outcome) of activity theory are used as the framework to examine the possible missing puzzles of this project.

Literature Review

Elements of Activity Theory

Activity theory (AT) is increasingly being used to understand social aspects of