
SOCIAL WEB APPLICATIONS FOR INTERCULTURAL PROJECTS – RESULTS OF A JAPANESE-HUNGARIAN COLLABORATIVE TEACHING EXPERIMENT

Pal Molnár, Károly Gáspár University, Hungary, Andrea Kárpáti, Eötvös Loránd University, Budapest, Hungary,
Kumiko Aoki, National Institution of Multimedia Education, Japan

In: **New Technology Platforms for Learning – Revisited**. Proceedings of the LOGOS Open Conference on strengthening the integration of ICT research effort. 19-20 January 2009, Budapest, Hungary. ISBN: 978-963-87914-1-2

Abstract

This paper presents a model for using an interrelated set of Web 2.0 applications for making intercultural learning a social cognitive process that constitutes a cycle of personal and social knowledge-building. Relationships between individual minds of different socio-cultural backgrounds are established through internet based, individual, pair and group work. Our model is based on the triological learning theory (Paavola, Lipponen, and Hakkarainen, 2002) that emphasizes collective knowledge construction through work around shared knowledge objects. Collaborative knowledge-building environments (e.g., Facebook, Google Docs and the MapIt discussion software) were used to facilitate an intercultural collaborative course aimed at having students articulate their own cultural identities and understand verbal and multimedia expressions of others. Social web tools as well as learning designs were evaluated both by teachers and learners in Japan and Hungary in terms of the efficacy of this model for intercultural studies using Web 2.0 media. This paper presents theoretical and methodological considerations as well as examples of student work to illustrate the potentials of this instructional method in higher education.

.Keywords: computer-mediated communication; social cognition; distributed learning environments, evaluation of online teaching and learning

Introduction

Social software has emerged as a major component of the Web 2.0 movement. (Boulos, 2006, Sauer et al., 2005). The idea dates as far back as the 1960s and JCR Licklider's thoughts on using networked computing to connect people in order to boost their knowledge and their ability to learn. The Internet technologies of the subsequent generation have been profoundly social, as listservs, Usenet groups, discussion software, groupware, and Web-based communities have linked people around the world. These sections of the Web break away from the page metaphor: rather than following the notion of the Web as book, they focus on *microcontent*. Blogs are about posts, not pages. Wikis are streams of conversation, revision, amendment, and truncation. Podcasts are shuttled between Web sites, RSS feeds, and diverse players. These content blocks can be saved, summarized, addressed, copied, quoted, and built into new projects. Browsers respond to this boom in microcontent with bookmarklets in toolbars, letting users fling something from one page into a Web service that yields up another page. In the shift from an intellectual economy of push, to one of pull, the evolving participatory media are making their impact felt. (Alexander, 2006, O'Reilly, 2005, Stahl, 2000)

Participatory Media (e.g., blogs, wikis, RSS, tagging and social bookmarking, music-photo-video sharing, mashups, podcasts, participatory video projects and videoblogs) make it possible for every member of a network to broadcast and receive text, images, audio, video, software, data, discussions, transactions, computations, tags, or links to and from every other person in a symmetric fashion. These are social media whose value and power derives from the active participation of large groups. Social networks (individuals or organizations that are tied by one or more specific types of interdependency, such as values, visions, ideas, financial exchange, friendship, kinship, dislike, conflict or trade) enable broader, faster, and lower cost coordination of activities.

These characteristics make Web 2.0 technologies highly powerful educational tools. (Boulos and Wheeler, 2007, Lamb, 2004).

Making, sharing, and using collaboratively produced digital documents seems to be a growing practice in higher education as e-learning gradually becomes standard feature supplementing traditional face-to-face courses as well. (Cf. international reports on the use of Web 2.0 in education, ¹) Daily media consumption and communication habits of students are based on networking with contacts through sites like MySpace, broadcasting options like Twitter, and media presentation sites like YouTube. They will no more be content with lecturing methods based on “old media” – the term used for pre-internet channels for the creation and distribution of information – and on “old instructional method” – the term used for teacher-centered teaching.

The question most often asked is, if “*Is Education 1.0 ready for Web 2.0 students?*” The Computer Supported Collaborative Learning (CSCL) paradigm has been proposing Education 2.0 models for teaching and learning parallel with the outburst of multimedia and internet technologies. (Brown & Campione, 1994; Resnick et al., 1991; Pea, 1993; Scardamalia & Bereiter, 1996). Stahl (2000) proposes a model for social knowledge construction that is exemplified in the Japanese-Hungarian cultural study project described below. The process model of knowledge-building presented in this paper provides a conceptual framework for the design, use and assessment of such systems by indicating important phases that could be supported.

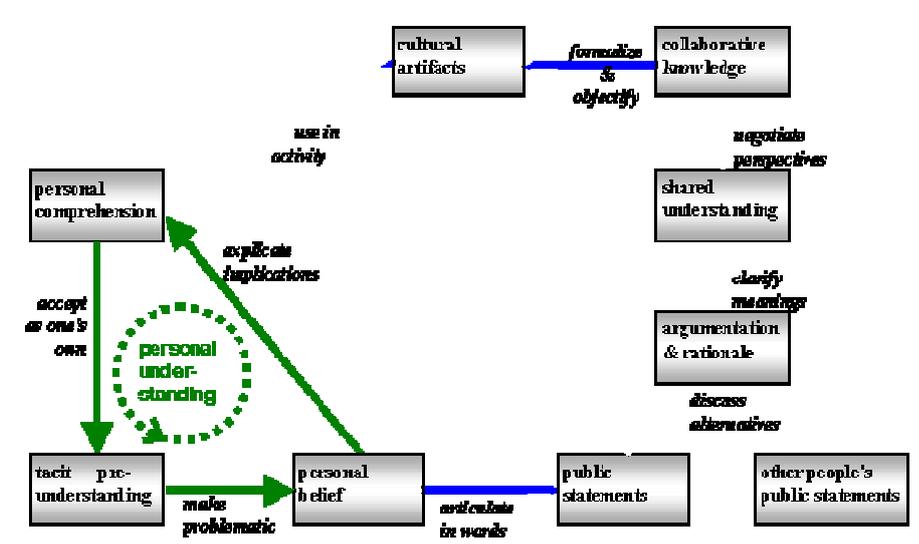


Figure 1. A diagram of knowledge-building processes. Stahl, 2000

The diagram shows the dialectical constitution of the individual and the social learning processes. The cycle of personal understanding relates to our ability to articulate personal beliefs and enter into a *social* process of interaction with other people and with our shared (or highly distinct) culture. This culture, in turn, enters into our *personal* understanding, shaping it with ways of thinking, motivational concerns and diverse influences. Personal cognition and social activity are intertwined.

Research framework

In Hungary, the experiments with the Social Web in education have so far primarily targeted at language and communication studies. (Kárpáti, in print). Language teachers who strive to provide learners with authentic communication environments find that the new generation of learners demand to be engaged, active and part of a collaborative knowledge building community.

¹ Web 2.0's impact on education and innovation: a research report. 2007. <http://ict4peace.wordpress.com/2006/06/06/web-20s-impact-on-education-and-innovation/>

Web 2.0 for Learning and Teaching in Higher Education: <http://www.obhe.ac.uk/products/reports/>

JISC TechWatch Report on Web 2.0:

<http://www.jisc.ac.uk/whatwedo/services/techwatch/reports/archive.aspx>

From a cognitive viewpoint, there are many skills and sub-processes at work that must be considered when planning an online university course. These include activities considered personal skills, like summarization, text understanding, critical thinking, and logical structuring of arguments. When two remote cultures are involved, social interaction skills such as turn-taking, reconciliation of misunderstandings, rhetorical persuasion, and interactive arguing must also be learnt and practiced. Cognitive artifacts (Norman, 1993) or "object to think with" (Papert, 1980) in developing a theoretical understanding must carefully be selected to provide motivation without cognitive overload.

Collaborative understandings are sometimes objectified in external persistent symbolic objects – cultural artifacts – that preserve this understanding as their meaning that are activated through use in communication or work. "This coming to life in use by an individual is an interpretive process of the individual's activity in the world. It may take place either consciously or tacitly, and may subsequently be integrated into the individual's implicit personal understanding. In this way, among others, social meanings become internalized in personal minds. Another way this may happen is through formalization of the shared understanding in representational schemas that express the shared knowledge. These representations are also cultural symbolic objects that help to transmit and encapsulate collaborative knowledge. Formal representations like mathematical symbol systems or our process diagram provide cognitive supports and help to preserve and communicate meanings, much like physical cultural artifacts such as sculptures do in their own way." (Stahl, 2000)

A report on the use of Web 2.0 in higher education (Franklin and Hammelen, 2000) offers recommendations to on how to respond to the opportunities and challenges of Web 2.0. It emphasizes the importance of avoiding prescriptive instruction that stifles the experimentation that is needed with Web 2.0 to take full advantage of the possibilities offered by this new technology. Evaluating best practice examples from international higher education institutions, it suggests making institutional repositories more accessible for learning and teaching through the use of Web 2.0 technologies, including tagging, folksonomies and social software.

Collaborative Knowledge-Building Environments (KBEs) provide different forms of computer support corresponding to each phase in the social knowledge-building cycle.

Table 1. Forms of computer support for phases of knowledge building. (Stahl, 1993)

	<i>Phase of knowledge building</i>	<i>Form of computer support</i>
a	articulate in words	articulation editor
b	public statements	personal perspective
c	other people's public statements	comparison perspective
d	discuss alternatives	discussion forum
e	argumentation & rationale	argumentation graph
f	clarify meanings	glossary discussion
g	shared understanding	glossary
h	negotiate perspectives	negotiation support
i	collaborative knowledge	group perspective
j	formalize and objectify	bibliography discussion
k	cultural artifacts and representations	bibliography or other community repository

Our course was designed to make use of a diversity of widely accessible and technically culture-neutral (approachable both by Japanese and Hungarian students) Web 2.0 tools to invite them to share knowledge about their own cultural, personal and social identity and reflect on those by their peers from a foreign country.

Student sample

The participants on the Hungarian side were 12 Hungarian students who were 3rd grade undergraduate university students at the Károly Gáspár University in Budapest, majoring Japanese Studies. On the Japan side, 17 Media Communication students from the Kanda University of International Studies participated in this project.

ICT competence of the Hungarian student groups was evaluated by the ICT Competence Survey developed at Eötvös University under the guidance of the second author of this paper (Cf. Kárpáti and Blamire, 2008). The survey revealed a great variety of previous experience with internet projects and collaborative authoring, so remedial tutoring was offered for those who were identified as inexperienced in these areas. Hungarian students had some initial experiences with some tools because they used them to collaborate with Japanese students from a different university in the previous semester. Within the previous course, however, collaborative work (social applications of Web 2.0 tools) were not employed, only social software like Tokbox, a social video messaging tool, was experimented with. Therefore, both the Hungarian and Japanese groups could be considered novices in the use of Web 2.0 applications for collaboration.

Methodology

Course development

Given the constraints on our learning community members who lead busy, geographically distributed lives, KBEs have the potential to provide communication media to facilitate the communication process providing “just-in-time” (or “anytime, anywhere”) solutions. In order to make optimal educational use of social spaces offered by thousands of international communities in the second generation web applications termed Web 2.0 or Social Web, ICT competences as well as social skills are needed for both teachers and learners.

We decided to set up a joint course for Japanese and Hungarian university students in order to create an authentic arena for them to get in contact, communicate with each other and learn about each other's culture. Students selected topics for verbal and visual interpretation in groups, collect information about the culture of their own and those of their partner's, prepared documents and presentations in collaboration and thus communicated with each other through working around shared knowledge objects. All tasks were managed by online social software tools. A secondary learning goal was to make students familiar with these types of solutions.

Japanese was the working language of communication and collaboration, as the course was designed for Hungarian M. A. students with basic knowledge with ICT tools and Japanese language. Japanese partners were undergraduate students taking the class of Media Communications. The semester in Hungary started in September and finished in the middle of December, though in Japan, the semester started in October and finished in the middle of January. The time difference between the two countries (7 hours) was overcome by using asynchronous communication channels. The Cultural Studies course for Japanese students was held once a week, on Mondays, while Hungarian peers had a face-to-face class with their tutor, the first author of this paper, every Wednesday. One more lesson per week was offered for those with lower competence in Web 2.0 applications to master new tools. Home assignments included posting forum topics, comments, pictures and video messages and almost all students contributed this way from week to week from both countries. In the class, everybody could use a computer to collaborate and communicate with each other. Almost every task could be performed with a Internet browser. For video messaging we used webcams and earphones.

Course content and methods

Japanese and Hungarian students were free to to choose *topics about the culture of the other nation* and then had to collect facts, pictures, videos, music, etc. about the issue of their choice, using mostly Internet resources. Presentations were partly prepared in collaboration with Japanese counterparts. Students shared their final presentations on the web and in the collaborative personal learning environment. As Hungarian students started the course one month earlier than the Japanese, they had time to collect interesting facts and images about their own culture to help Japanese students prepare their assignments about Hungary.

The course was designed with the intention to experiment with *online social tools* that provide collaborative posting, editing and commenting functions, as well as inserting pictures, videos and other embeddable contents from the internet. Also, these applications could support group work, networked collaboration, communication and presentation. Both national groups worked collaboratively in shared document creation environments (Google Docs and Google Presentations), and performed commenting and organisation of joint tasks through a course management blogging and wiki environment (Google Sites). Important *methodological aspects* of the course were:

- *using social networks*
 - networking, managing relationships and friendships,

- interacting with students and their tutor of the partner university
- managing the collaborative learning group, and
 - use and manage forums
 - use message board
 - record videos, make digital images
 - upload pictures, videos
 - provide links to shared presentations, video messages, slideshows etc.
- *creating multimedia elements* - video and picture - for all of the tasks
- *using online collaborative environments and tools*
 - to manage collaborative blogging, commenting, collecting, etc.
 - to create collaborative documents, forms, presentations
 - to learning from each others' postings and way of collaboration
- *using internet tools for communication*
 - video, voice, VOIP, instant messaging, message board, forums, comments

The course has been designed for the students to acquire the following *skills and competences*:

1. *Multicultural communication skills*
 - a. mastering online tools used during the course
 - b. contacting a foreigner, establishing professional discourse, socialising (making friends)
 - c. creating, sending and sharing of introductory videos
 - d. selecting culturally relevant topics other would find interesting.
 - e. analysing collected information and sharing evaluations with each others
 - f. explaining culturally relevant concepts to members of a different cultural community
 - g. creating "multicultural" presentations
 - h. answering, commenting, reflecting on each other's postings, presentations, etc.
2. *ICT technology skills*
 - a. testing various functions of Web 2.0 tools (visual discussion mapping tool,
 - b. brainstorming about interesting topics of own culture to provide some support to Japanese students
 - c. collecting information, picture, video, facts, etc about the chosen topics in groups collectively and collaboratively
 - d. creating and sharing online forms to collect information to the chosen topics
 - e. recording voice for presentations created
 - f. narrating slide shows
 - g. creating forum topics in accordance the chosen topics and ask for information
 - h. posting answers, comments to each other's forum topics, questions
 - i. posting pictures, videos, links, questions, etc. in a shared learning environment

Social Web applications employed

Hungarian students had more knowledge about the partner's culture because of their study programme (Japanese Culture Studies) and special interests. Japanese students knew little about Hungary, so we used a variety of social knowledge building tools to help them communicate in a collaborative fashion. During the course we used the following social and collaborative applications:

When selecting a social networking site, we considered that it was supposed to accommodate various content types, be multilingual, (available at least English and Japanese), it had to be a friendly, secure and reliable environment (like a walled garden). In order to encourage personalised virtual encounters, it had to have profile pages. In terms of access, it had to be well designed, clear, has well structured user interface and be easy to use.

There are *social networking solutions* in their own language for the internet both in Hungary and in Japan, but their functionality is limited. IWIW, the Hungarian social network is very popular with native users (www.iwiw.hu), but it has no Japanese interface, - a critical factor in the case of distrustful Japanese people -, and it has very limited sharing functions (only pictures can be shared). Also, it has no group creation tools. The system is very permeable, which is also less than desirable for secure group based activities. In the case of Japan, there exists an extremely popular social network called Mixi, where almost every young adult in Japan has an account. This network, however, is closed to foreigners and only available in Japanese, because of the lack of trust based on problems with foreign users in the past.

Therefore, *Facebook* was selected and interactions between the two cultures were performed almost exclusively in the group created in Facebook for the course. Every Hungarian and Japanese student was invited to this shared space by the Japanese and the Hungarian teachers and was assigned to create forum topics, to reflect on each other's topics, to post questions and comments, to upload pictures and video and to comment them. We also shared online questionnaires and presentations. The message board was a central place for posting short messages, and links for the online questionnaires and presentations.

Google Docs is a collaborative environment with office-like collection of applications that makes this solution ideal for collaborative knowledge creation. Here, course participants could create and share documents, spreadsheets, presentations in collaboration and tutors could follow this procedure from the beginnings of text editing. The students liked this tool and mastered all its applications rapidly. The editing of documents in real time was found very intuitive, but sometimes also annoying. Contents could be shared in various forms. *Google Forms*, an online questionnaire creation application, was used for quick and effective data collection. Students collected a lot of relevant information for their presentations through this application. *Google Presentations* was used from the planning and writing stage to design and develop shared presentation. Students created rich content and highly interactive multimedia work with this tool.

Voicethread is another intuitive online tool that was used to upload, share and comment presentations in various forms (drawings, voice comments, video comments, etc.). Multimedia messages could be uploaded here and commented or shared in blogs to create a more personal effect. *Tokbox*, another online video messaging and conferencing application was used because of its unique feature, sending recorded video messages and feedback about those viewed.

Results

Student portfolios

Hungarian students selected seven topics about Japanese culture: audience reception of foreign television dramas in Japan; life and works of Murakami Haruki, a world-famous Japanese writer; transportation mechanisms in Japan, "geek culture" in Japan, *anime and manga* culture; Japanese idols and the concept of beauty in Japan; and music in Japan. The Japanese students helped to collect information about these topics and answered the questionnaires sent by Hungarian students. Also, Japanese students selected five topics about Hungarian culture: sports in Hungary; tourism in Hungary; Hungarian gastronomy; coming of age – youth entering adult life, and classical music in Hungary. Hungarian students collected information about these topics and created presentations collaboratively. Both Japanese and Hungarian students performed content collection and creation with social knowledge building tools outlined above and worked in collaboration both with students at their home institution and those in the other country. Final presentations were shared in Facebook's group environment.

Although the international course was highly successful in terms of collaborative knowledge creation and intercultural understanding, there were communication and collaboration problems both on a course level and on an international exchange level. As mentioned previously, there was a *time difference* between Japan and Hungary; 7 hours in the winter time period and 8 hours after the clock was set to summer time in Hungary. Therefore, if we were to have real time joint international classes, we would have to start in the morning in Hungary and in the evening in Japan. In this class as collaboration between students across borders was asynchronous, students did not manage to meet synchronously through online videoconferencing. Exchange of ideas was restricted to weekly sessions, and responding to forum messages and emailing were sluggish sometimes. Hungarian students declared after the course that during the next iteration, collaboration should be organised to include more synchronous events. Japanese students complained about some. Hungarian peers who didn't answer their questions and rarely commented their topics, videos and pictures. Some Hungarian students lost motivation for similar reasons: they also reported not to have received responses from Japan. Feedback was not as fast and fluent as expected by tutors both in the case of the Japanese and the Hungarian students. There were some *course management problems* also: university semesters start at different times in Japan and in Hungary. (The fall semester starts in September in Hungary and finishes in the mid of December, and in Japan it starts in October and finishes in January.) Therefore, delivery of collaborative course assignments involving students from both universities had to be carefully co-ordinated. *Technical skill* of students were also

different: Hungarian students who experimented with some of the tools during a previous semester, had more time for testing new applications and were more prepared at the beginning of the collaboration.

However, both the quantity and quality of student output exceeded all previous experiences and expectations of tutors. During the 2 hour-weekly sessions for three months, 12 Hungarian and 17 Japanese students created 22 topics, 126 comments, sent about 40 messages to the group message wall, shared 55 pieces of photo, 13 shared videos in Facebook and some introductory videos in Tokbox. Japanese students created 7 presentations with voice comments and the Hungarian students produced 5 presentations. Hungarian students failed to work with the oral commenting application, so they did not comment the presentations they created but created collaborative discussion maps instead. According to post hoc satisfaction questionnaires that also contained items from the ICT use survey taken at the beginning of the course, both student groups revealed increased motivation and skills to use Social Web applications for learning purposes and expressed satisfaction with both the content and methodology of the course.

Conclusion

Web 2.0 may have a significant influence in intercultural learning and have powerful implications for education, from classroom teaching to individual learning. For international groups that intend to study the culture of others, no other platform is more cost-efficient and user friendly. In terms of expression, privately used applications may easily be turned into learning environments. Starting a wiki-level text entry is far easier than beginning an article or book, and authentic collaboration through tagging and commenting definitely prepares for co-operation with team members on the job both in a uni- or multinational company.

Virtual educational environments in the age of the Social Web represent a perfect embodiment of the Constructionist paradigm: they offer shared discussion and work spaces instead of presentation tools, coaching utilities instead of help desks, and digital learning resource repositories instead of ready-made learning materials. The popular Web 2.0 applications in education such as wikis, blogs and podcasts, are just the tip of the social software iceberg. Web 2.0 technologies represent a revolutionary way of managing and repurposing online information and knowledge repositories, including educational research information, in comparison with the traditional Web 1.0 tools.

Issues for further research are abound: "What new, natively digital textual forms are impending as small-scale production scales up? "Web 1.0" has already demonstrated immense powers for connecting learners, teachers, and materials. How much more broadly will this connective matrix grow under the impact of the openness, ease of entry, and social nature of Web 2.0? How can higher education respond, when it offers a complex, contradictory mix of openness and restriction, public engagement and cloistering? How do we respond to the possibilities of what some call "E-learning 2.0," based on environments, microcontent, and networking?" (Stahl, 2000). Research has to clarify, also, if these new educational potentials are open for all, or if there are special characteristic features required for making an optimal use of Web 2.0 for teaching and learning. Our next experiments therefore will focus on learning styles and Social Web applications in different higher education settings.

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