

The World Wide Web Projects Through Collaborative Learning¹⁾

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1. Introduction

The use of the World Wide Web (the Web) became widespread after its invention in the 1990s. The number of Web sites increased tremendously in a short period and people of various professions were attracted and intrigued by the Web's potential. Educators including ESL/EFL teachers were no exception. Worldwide educational institutions are creating their Web pages and even some ESL/EFL courses are being conducted through their course Web pages as well. In general, Web pages are divided into three categories: an information database, a communication tool, and problem-solving/collaborative learning projects. This short paper aims to examine how the use of the Web in a collaborative form has an impact on EFL and cultural learning.

During the 1996-97 academic year, the writer²⁾ led two different and successful Web projects for some graduate students who took the classes as a selective class with required credits in the core curriculum of the Master of Engineering Course at Toyohashi University of Technology. This paper looks at the basics of collaborative learning, summarizes the Web projects, discusses their pros and cons, and provides some suggestions to improve such projects in the future.

2. Collaborative Learning

Cooperative learning (CL), the instructional use of small groups in order to achieve common learning goals via cooperation has made an almost unprecedented impact in education during the last two decades. With regard to second language (L2) learning, Kessler (1992) proposed a definition of **CL** as follows:

CL is group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others.

She also continues to mention:

The **interaction** may be as simple as having students discuss points of a lecture in pairs; or they may be very complex, based on precise grouping, or specialized tasks. Not all group work or informal collaboration between students is necessarily cooperative. **CL** is distinctive because it may include attention to: positive interdependence, team formation, accountability, attention to social skills, structures, and structuring of learning.

Dornyei (1997) investigates reasons for the success of **CL** from a psychological perspective, focusing on two interrelated processes: unique group dynamics of **CL** classes and the motivational system generated by peer cooperation and argues that the affective domain of **CL** plays the crucial role in the educational potential of the method.

On the other hand, Warschauer (1997) introduces a conceptual framework for understanding the role of computer-mediated interaction based on a sociocultural analysis of the relationship among text, talk, and learning and also analyzes current research on **collaborative learning** according to five features particular to on-line interaction.

However, Oxford (1997) made a clearer and more important distinctions among three strands of communication in the foreign or L2 classroom: **CL**, **collaborative learning**, and interaction.

CL refers to a particular set of classroom techniques that foster learner interdependence as a route to cognitive and social development; **Collaborative learning** has a "social constructivist" philosophical base, which views learning as construction of knowledge within a social context and which therefore encourages acculturation of individuals into a learning community; Interaction is the broadest of

the three terms and refers to personal communication, which is facilitated by an understanding of four elements: language tasks, willingness to communicate, style differences, and group dynamics.

3. Some Examples for Web Projects

Dryden (1995) introduced multimedia projects by EFL learners at JALT'95 Conference in Nagoya,³⁾ along with other impressive and successful ideas and examples. Mills (1995), Robb (1995/96) and Soltesz (1996) also gave fundamental ideas for the projects in 1996-97. In addition, Debski (1997) reported a collaborative project in Poland and discusses a role of technology in the support of creativity and collaboration in the language classroom.

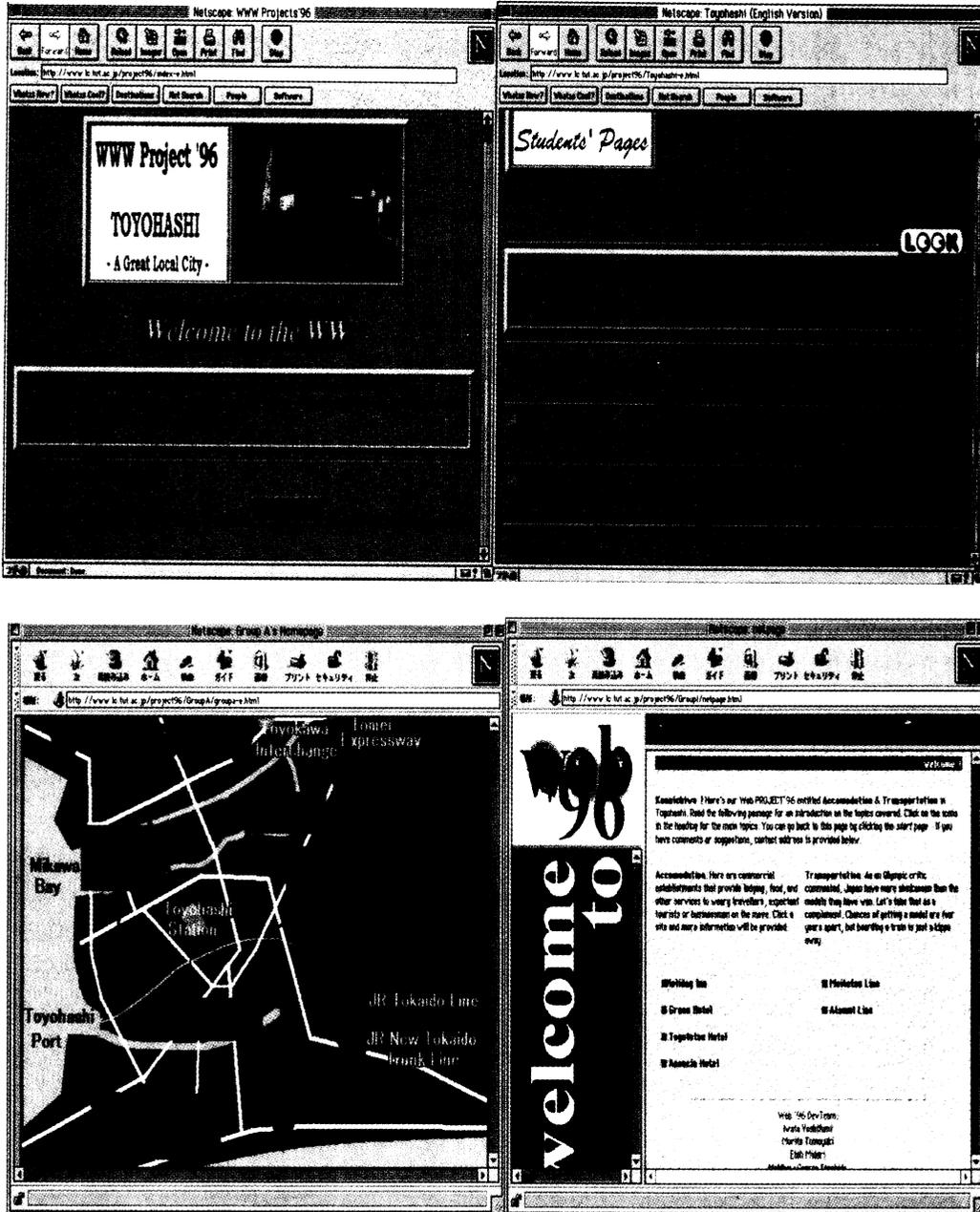
4. Web Projects (1996)

The Web project for 1996 titled **“Toyohashi - A great local city”** (<http://www.lc.tut.ac.jp/project96/index-e.html>) focused on learning the basics of HTML (HyperText Markup Language), relearning of a subculture (Mikawa/Toyohashi culture) of Japanese culture, brushing up students' EFL writing skills, and disclosing the final product - Web pages - in the cyberspace after a two-term period (about 20 weeks) of the work in a collaborative form.⁴⁾

Due to the capacity limitation of the CALL lab the writer randomly chose 50 students including international students by lot from more than 100 pre-registrants and grouped them into 9. He asked at least one student who majored in Information and Computer Sciences or Knowledge-based Information Engineering because they could technically help other in-group members with their knowledge and skills.

Because of the unavailability of the Toyohashi-focused Web page then, the main purpose of the project was to create it and contribute to a local community by introducing the subculture in the cyberspace while improving the students' writing skills and acquiring the subcultural knowledge. The writer guided the students to learn the basics of HTML with updated bilingual handouts and demonstrations and assigned each group to create texts and graphic information for a certain area in Toyohashi City. The students obtained digital photos during the weekends using a high-quality MINOLTA digital still camera. The prearrangement was done to allow each group to use the camera. It, however, took many hours for the writer to transfer more than 100 graphic files (Each PICT file was more or less 4-5 MB in size) from the camera to a computer and change the formats into usable ones (GIF files) for the Web projects using a graphic converter.⁵⁾ After discussion within each group, they themselves decided how to design the Web pages while each member had the responsibility to create their own part. The writer helped them with the minimum level of technical assistance only when he was asked during the class hours or the office hours.

The evaluation for each group's final product was done during the final class hour by

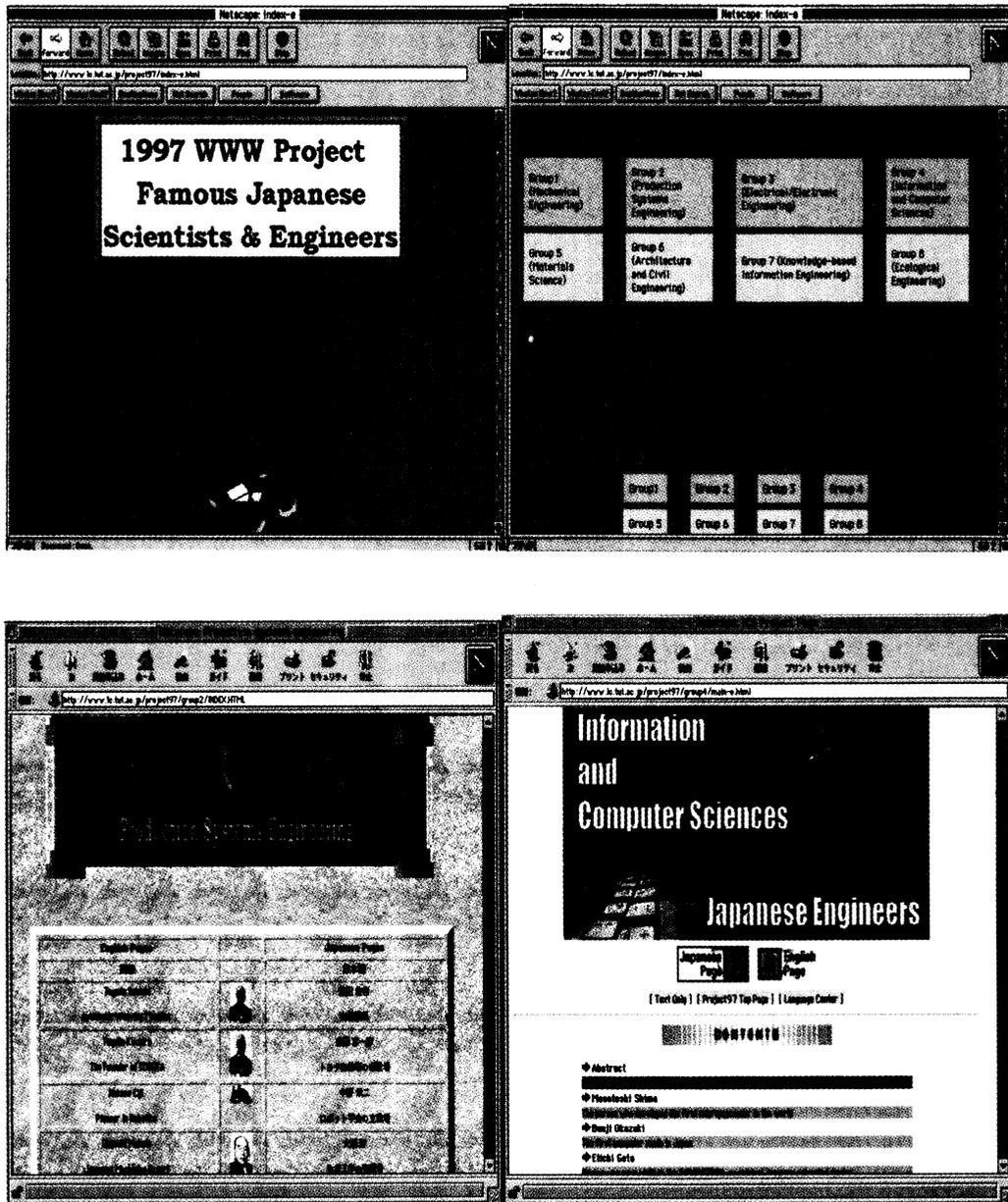


Graphics: Upper left (homepage), upper right (students' page), lower left (public facilities' page), lower right (accommodation & transportation's page)

other groups using an evaluation form that was prepared by the writer. This was an application of peer-to-peer evaluation techniques. However, their evaluations were not strict like the ones given by the writer and a bit higher than the general level. The final grade for each group was given by totaling the attendance results and the writer's stricter evaluation results on their pages in addition to the ones by the groups.⁶

The students' responses to such a Web project in the bilingual questionnaire were very positive and satisfactory and many of them mentioned they would like to take another project-class if possible.

5. Web Projects (1997)



Graphics: Upper left and upper right (homepage), lower left (production engineers' page), lower right (computer scientists' page)

The Web project for 1997 titled **“Famous Japanese Scientists and Engineers”** (<http://www.lc.tut.ac.jp/project97/index-e.html>) was done in a different approach and focused on similar cultural learning, but the basic organization of the project was the same as the 1996 one.

The writer again had to choose a maximum of 50 students by lot from more than 100 preregistrants and grouped them into 8 by their majors. This was due to the purpose of the project in creating Web pages on famous Japanese scientists and engineers in each major field.

The writer took the same approach to teach the basics of HTML with newer references and occasionally helped some who were beginners in the Web world.

The evaluation was also done similarly as the one in 1996 but with a more revised form. The similar group evaluation results by students were again given to each group and the writer adjusted the final grade with the attendance rate and the severer evaluation results.

The students' responses were also quite positive and many of them expressed that the project itself was enjoyable and also that they had a good experience in learning the basics of HTML through the collaborative learning format. The similar comments from students who participated in Web projects can be found in Teremetz & Wright (1998), NCET Communications Team (1998), etc.

6. Results and Discussion

There are pros and cons for such a Web project. It is easy to realize them from the following previously researched examples:

Galloway & O'Brien (1998) provides some guidelines to help teachers discriminate between activities such as collaborative Web projects that are likely to be successful with Japanese students and those that are not. However, they warn that although the collaborative Web page activity is potentially the most interesting, the high degree of technological expertise required by both teachers and students makes it an inappropriate choice for a class new to Computer Mediated Communication (CMC) projects. Based on the experiences and survey responses given by university teachers in Japan who have used the Internet in their classrooms, they developed eight questions to identify problem areas in CMC activities. The following criteria for evaluating CMC activities is given to anticipate problems and make appropriate adjustments.

The Eight Questions	Activity #1 Discussion Newsgroup	Activity #2 International Keypals	Activity #3 Collaborative Web PAge
#1: How much technical support is needed ?	not much ○	not much ○	highly demanding ×
#2: How reliable is Network access ?	variable △	e-mail (easy) ○	variable △
#3: How much computer experience is needed ?	not much ○	not much △	a lot ×
#4: Is the activity Communicative ?	no ×	highly △	highly ○
#5: Is it task-oriented ?	yes ○	cbn be △	yes ○
#6: Is it integrated into the curriculum ?	yes ○	can be △	yes ○
#7: Is it appropriate for the students ?	possibly △	possibly △	possibly △
#8: Are results easily monitored ?	very time-consuming ×	can be △	yes ○

○ = good

× = a problem-what can you do to minimize it ?

△ = a potential problem-how can you design the activity to avoid it ?

7. Conclusion and Recommendation

As Frizler (1997) suggests, students must learn how to use HTML for the WWW by working together to inductively learn the meanings of HTML codes for basic Web page creation. At the current stage, it's possible and easier for both teachers and students to learn the basics of HTML by using some wordprocessors such as MS-Word to HTMLize the text and add graphic files, data files, etc. The best introductory to HTML on line is NCSA (The National Center for Supercomputing Applications)'s 'A beginner's Guide to HTML' (<http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimerAll.html/>) and Joe Barta's Form Tutor (<http://junior.apk.net/~jbarta/tutor/forms/index.html>), Table Tutor (<http://junior.apk.net/~jbarta/tutor/tables/index.html>), and Frames Tutor (<http://junior.apk.net/~jbarta/tutor/frames/index.html>) are excellent on-line lessons that teachers or students can learn by themselves⁷⁾.

The writer finally would like to recommend an introductory article by Royer (1997) and Puetter (1998) who describe the simple steps needed to host an online collaborative project from designing it to planning for the future.

Collaborative projects can motivate both students and teachers who can learn from each other and help each other to learn. As a result, all the students' self-esteem would increase. They can also give them a sense of the real world unlike other ESL/EFL classroom activity so that they should be offered more in the ESL/EFL curriculum.

Notes

- 1) This paper was written for summarizing three similar presentations that the writer gave in 1998: paper presentations for the TESOL'98 Convention and Exhibition in Seattle, Washington, U. S. A. on March 19, 1998, and the WorldCALL Conference in Melbourne, Victoria, Australia on July 17, 1998; a lecture presentation at The University of New England, Armidale, New South Wales, Australia on August 7, 1998.
- 2) The writer has taught English as a Foreign Language, CALL, and Intercultural Communication at Toyohashi University of Technology, a national engineering college, until March 31, 1998. On April 1, 1998, he joined the Faculty of Economics at Ritsumeikan University to teach English as a Foreign Language using CALL.
- 3) JALT stands for Japan Association for Language Teaching and holds the annual international conference in autumn.
- 4) Each class consisted of a 75-minute class per week and each group collaborated their work. The students could carry on their research and bilingual HTMLization work at their computers in the laboratories and also could come to consult with the writer during weekday office hours.
- 5) It took several minutes to transfer each file from the high-resolution still camera to the computer and also took the similar time to change the format from PICT file to GIF file using the graphic converter.
- 6) Basically the same grading points were given to the members of each group with slight variations.
- 7) EFL teacher and CALL researcher, Charles Kelly at Aichi Institute of Technology, gives the basic guideline to create Web pages titled "How to Make a Successful ESL/EFL Teacher's Web page. <http://www.aitech.ac.jp/~iteslj/Articles/Kelly-MakePage/>") while Mark Peterson of Japan Advanced Institute of Science and Technology also gives a clue with his handout titled "Making an English Web page with Netscape Gold" (<http://www.aitech.ac.jp/~iteslj/Handouts/PetersonUsingNSGold.html/>).

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