

2001-12-01

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Recommended Citation

Prapphal, Kanchana (2001) "Self-Evaluation of Language Skills and Non-Linguistic Factors through WWW and E-Mail Tasks," *PASAA*: Vol. 32, Article 4.

DOI: 10.58837/CHULA.PASAA.32.1.4

Available at: <https://digital.car.chula.ac.th/pasaa/vol32/iss1/4>

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Self-Evaluation of Language Skills and Non-linguistic Factors through WWW and E- Mail Tasks

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ABSTRACT

This article aims at studying students' self-evaluation regarding their language skills and non-linguistic factors, i.e. cognitive skills, affect and IT knowledge in performing net tasks. Collaborative learning through the use of web sites and e-mail was tried out with twenty-five first year Engineering students at Chulalongkorn University Language Institute, Thailand in June 1998. The study was repeated in the same year with thirty-two first year Pharmaceutical Science students of the same institute to obtain valid and reliable conclusions. The analysis of both qualitative and quantitative data shows positive feedback of employing two net tasks to supplement the regular English courses.

INTRODUCTION

The idea that teachers are facilitators who can provide optimal learning conditions to students using a CALL environment has been advocated by many CALL educators, researchers and specialists like Cameron (1999), Pennington (1999a), Windeatt et al (2000), Hanson-Smith (2000) and Warschauer et al (2000). Warschauer (1997) introduces a conceptual framework for understanding the role of computer-mediated collaborative learning. He proposes five major features of online

interaction: discourses of collaboration, text-based and computer-mediated interaction, many-to-many communication, time-and place-independent communication, and long-distance exchanges, as a potentially powerful tool for collaborative language learning. Prapphal(1993) found that cooperative learning fosters commitment to tasks and encourages students to work cooperatively, to learn to be problem-solvers, to become knowers rather than merely assimilators, and to act as evaluators and assessors. Cooperative learning can increase student participation in EFL classes

in the Thai context and appears to facilitate the learning process both cognitively and affectively.

Pennington (1999b) proposes that attitudes are key elements in CALL. Positive attitudes towards the computer may provide intrinsic motivation which can enhance the students' writing process, self-expression as well as communication skills. The advantages of computer-mediated collaborative learning have been reported by many classroom-based researchers. Pratt and Sullivan (1994) conducted a semester-long study on the effects of computer networking on teaching ESL writing at the University of Puerto Rico. They compared two ESL writing classes taught with the same syllabus but under different conditions. One class met one to two times a week in a computer-networked classroom where virtually all class discussion was carried out electronically using the Daedalus InterChange real-time communication software. The other class was conducted in a traditional classroom with oral discussion. They found that students in the computer-assisted class showed significantly greater gains in writing than did the students in the traditional class.

Gupta (1998) introduced word-processing into the English composition class. She investigated the effects of this single change on the quality of student writing and on student/teacher motivation. The study was carried out in Singapore with 17 fifteen year-old students in the ninth grade who were considered the weakest academic stream, and she found that students' essays improved in terms of quality and quantity. Classroom teachers have tried to use e-mail in various situations and contexts. For example, Ellen Butki (1997) at the University of Texas at Austin used e-mail to help students understand and use

new vocabulary and write conversationally and formally, as well as engage in active reading skills. At the University of Oregon, Leslie Opp-Beckman (1997) used e-mail to help students develop writing fluency and depth and write communicatively in English. Cristine Meloni (1997) at George Washington University found that e-mail technology can be used in the foreign language classroom to improve students' writing skills. The students shared information about their city with students of English in another city via e-mail. They also developed their ability to write clearly and more fluently in English. In addition, they participated in small-group discussions and gave oral presentations about other cities. Thus, this activity promoted cross-cultural awareness as well.

Based on the qualitative approach, Sakar (2001) used e-mail to promote intercultural learning between Turkish university students of English as a Foreign Language (EFL) and people of different national cultures around the world. He found that e-mail can provide students and teachers with exciting possibilities for innovative out-of-classroom opportunities in the teaching and learning of English and it also encourages autonomy and self-directed management of their own learning process.

In reading, Schcolnik (1997) used WWW to allow her students to reach outside the ESL classroom and deal with events happening in the real world. The activity requires reading and serves as a springboard for speaking and writing activities. She reported that her students worked cooperatively, used their judgment to choose an article, read authentic, up-to-date materials, and made connections between the new and the old as well as between the known and the unknown. In addition, the

activity gives the teacher the pleasure of using a variety of methodologies and techniques. In brief, Warschauer (1995, p.2) summarizes the benefits of e-mail in language teaching as follows: "First, e-mail provides students with an excellent opportunity for real, natural communication; second, e-mail empowers students for independent learning; and finally, the use of e-mail enriches our experiences as teachers."

Similarly, the use of web sites can facilitate the English teaching and learning process. Frizle (1997) points out the advantages of WWW in several ways. First, the WWW brings together many aspects of the Internet: audio, video, text and images. In addition, the web is mostly an unmoderated and uncensored source of information on everything from commercial advertisements to song lyrics, to online professional journals, to ESOL lesson plans. On the WWW, both teachers and students can find classroom materials such as maps, magazines, movie listings, weather reports and recipes. In addition, students can visit ESOL-specific sites to practice and get help with their English.

Davey (2001) used collaborative Web page design projects for teaching EFL to first-year Japanese university students and found that projects which involve the use of the Internet are important factors for successful communicative EFL materials. Soo (1999) mentions that the CALL environment can motivate, enhance and extend different learning styles. Ngeow (1999) indicates that using the computer can encourage group work and lead learners to use their individual learning styles to the group's advantage; thus, the computer promotes learning cooperatively. Furthermore, Jones (2001) suggests that the teacher can

develop students' sense of autonomy through CALL.

Bennett, Hamill, Naylor and Pickford (1997) found that in exploiting an IT module with undergraduate primary student teachers, 69% of students reported a focus on the development of IT specific skills and knowledge, 22% felt the activity had contributed to non-IT related learning, and 9 percent commented on the contribution IT had made to cross-curricular learning. Regarding language skills, Johnson (1987, p.74) found that computers are used most frequently in conjunction with training in writing skills.

In the Thai context, Prapphal (1997, 1998) advocates the possible application of information technology to teaching and learning English. In addition, the students' needs and interests have to be taken into account so that the language will neither be too complicated nor too simple. It should be at the level of "I+1" in Krashen's terminology. She also proposes that self-directed learning through the Internet and intranet pedagogy should be a choice for language teachers. She asked twenty-eight first year Economic students who enrolled in Foundation English II in November 1997 and found that twenty-six percent wanted to do the task involving getting information from WWW. About 20% wanted to e-mail their friends and 17% wanted to play games. These were the top three tasks. The rest were writing web pages (13.04%), practicing English by using CALL programs (10.87%) and typing reports (2.17%). The same questions were repeatedly asked with first year Engineering and Pharmaceutical Science students in 1998. The results are shown in Table 1.

Table 1. Thai Students' Preferable IT Tasks

Tasks	Economic Students (n=28)	Engineering Students (n=25)	Pharmaceutic al Science Students (n=32)
1. Getting information from WWW	26.09%	34.69%	25.49%
2. E-Mail	19.57%	18.37%	17.65%
3. Playing games	17.39%	10.20%	41.18%
4. Writing web pages	13.04%	12.24%	3.92%
5. Practicing English by using CALL programs	10.87%	8.16%	7.84%
6. Getting information from CD-roms	10.87%	12.24%	0%
7. Typing reports	2.17%	4.08%	3.92%

Based on this information, the top tasks that the students wanted to perform are "Getting information from WWW" and "E-Mailing". Therefore, more details about the two net tasks were further investigated. Specifically, in applying the two tasks the following questions need to be answered.

1. Can the two tasks (the use of web sites and e-mail) contribute to students' language skills and non-linguistic factors (cognitive skills, affect and IT competence)?
2. Can the tasks work with students from different faculties?

METHODOLOGY

Subjects

Study 1

The subjects were twenty-five freshmen from the Faculty of Engineering who took the Foundation English Course I from Chulalongkorn University Language Institute in the first semester of the 1998 academic year. There were seventeen male and eight female students. Sixteen percent indicated that they liked English very much, and fifty-six percent liked English. Twenty-four percent said that they were indifferent towards English, and four percent mentioned that they disliked English very much. As regards to the ability to use the computer, ninety-two percent answered that they could use the computer, and eight percent

indicated that they could not use the computer.

Study 2

The subjects were thirty-two first year Pharmaceutical Science students who enrolled in Foundation English Course II from the same institute in the second semester of the 1998 academic year. There were ten male and twenty-two female students. Fifteen point sixty three percent indicated that they liked English very much; 59.38% liked English, 21.88% were indifferent towards English and 3.13% did not like English at all. In terms of the ability to use the computer, 93.75% could use the computer and 6.25% could not.

Instruments

Two questionnaires were used in the studies. The first questionnaire was designed to elicit the students' responses on their general background, their attitudes towards English, the ability to use the computer, their preferences in using the computer, their needs and interests in using the computer. (The results are reported in Table 1.) The second questionnaire aimed at obtaining subjects' opinions about their attitudes and competence in dealing with IT in the classroom. The details about the use of WWW and e-mail (e.g. language skills, non-linguistic skills, grouping, feedback, suggestions about the tasks) were asked in the questionnaire.

Procedures

As the Foundation English Courses aiming at providing communicative skills are requirements for all first year students (except for those from the Faculty of Arts), the same course materials are used by all instructors. However, supplementary

activities can be provided by each instructor to suit students' abilities, attitudes, needs, interest, and learning styles.

During the first session of the instruction (after the introduction of the course) the instructor distributed the first questionnaire to the students. In the next session, she asked the students to form a group of three to five students to do the WWW task. In the last session, the second questionnaire was distributed. As the questionnaires were distributed in class, all of them were returned.

Tasks

The web sites

The following steps were carried out to guide the students in doing the task.

1. Students were divided into groups of three to five.
2. They were given some interesting web sites as examples.
3. The presentation date was set for each group.
4. During the presentation, the leader of the group introduced the team and each member reported to the class regarding the web sites that they had surfed. The class asked questions about the report.
5. The other teams evaluated the group presenting the task. The criteria used were "interesting, comprehensible, accurate, and up-to-date."

E-mail

1. The instructor assigned two e-mail tasks reinforcing the writing skills taught in class. For Foundation English I the assignments were writing a descriptive paragraph and a narrative one. As for Foundation English II students were asked to write a

comparison and an argumentative paragraph.

2. Each student, using a student account, sent two e-mails to the instructor. Time was flexible depending on the speed and ability of each student. However, they had to finish the first e-mail before the mid-term exam and the second one before the final exam.
3. The instructor gave feedback via e-mail using the following criteria:
 - A. For good students (A and B), she gave suggestions and clues to errors the students made.
 - B. For average students (C), she corrected major errors and gave some hints regarding minor errors.
 - C. For poor students (D), she gave the correct sentences and asked them to hand in the assignment again.

Data analysis and results

As for qualitative data the analysis was carried out using the following steps to answer the first research question. First, the

qualitative data were grouped under these headings.

1. Language skills (reading, writing, speaking and listening)
2. Non-linguistic factors (cognitive skills, affect, IT competence and others)

Then, the responses were tallied according to the above headings and the percentage of each category was calculated. Regarding the second research question, the chi square test was carried out to find significant differences of the responses of the two groups of students. When the observed frequency was five or less, Yates' correction was employed for tests of goodness of fit and tests of independence.

RESULTS AND DISCUSSION

The data from the questionnaires were used to answer the two research questions.

The WWW task

Table 2 illustrates the skills and knowledge the students obtained from doing the WWW activity.

Table 2. Students' Preference on the WWW Task (Grouping)

Students	Individual Work	Pair Work	Group Work	Chi Square
Engineer	3 (10.34%)	4 (13.79%)	22 (75.86%)	21.17** p<.01
Pharmacy	2 (5.88%)	2 (5.88%)	30 (88.24%)	42.90** p<.01
Total	5 (7.94%)	6 (9.52%)	52 (82.54%)	68.66** p<.01

Table 2 shows the students' preference on the WWW task concerning grouping. When asked, which type of collaborative

learning, i.e., individual, pair or group work do you prefer? The subjects from both groups preferred "group work" to "pair

work" and "individual work." The chi square values of 21.17 for Engineering students and 42.90 for Pharmaceutical Science students confirm that the answers did not occur by chance. The results support Warschauer's 1997 article advocating the

role of computer-mediated collaborative language learning.

After doing the task the two groups were asked to give their positive and negative feedback as shown in Table 3.

Table 3. Students' Feedback on the WWW Task

Students	Positive	Negative	Chi Square
Engineering	25 (89.29%)	3 (10.71%)	15.75** P<.01
Pharmacy	25 (78.13%)	4 (12.50%)	26.32**
			No response p<.01 =3 (9.38%)
Total	50 (83.33%)	7 (11.67%)	64.93** p<.01

(The qualitative data on the WWW task are provided in Appendix A.)

There was a statistical difference between the positive and negative feedback on the WWW task (chi square = 15.75 and 26.32 for Engineering students and Pharmaceutical Science students, respectively.) Both groups preferred the task of introducing web sites in class. The

qualitative data show that this activity helped them the most to "know more web sites" and "enjoy new web sites."

When investigating their skills and knowledge in performing this task, Table 4 shows the results.

Table 4. Students' Skills and Knowledge in Performing the WWW Task

Skills and Knowledge	Engineering Students	Pharmaceutical Science Students
Language skills		
a. English skills	7 (58.33%)	21 (91.30%)
b. Presentation skills	5 (41.66%)	2 (8.70%)
Total	12	23
Chi square=3.46		

Non-linguistic skills**a. Cognitive skills**

1. Information handling skills	1	5
2. Gaining knowledge from each web site	7	10
Total	8 (20%)	15 (24.19%)

b. Affect

1. Supporting collaborative work	4	11
2. Enjoying new web sites	3	1
Total	7 (17.50%)	12 (19.35%)

c. IT Competence

1. Learning about the Internet	9	8
2. Knowing more web sites	14	26
3. Knowing how to print information from the Internet	2	1
Total	25 (62.50%)	35 (56.45%)

Total	40	62
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Chi square=4.74* (p<.05)

In terms of language skills, 58.33% of Engineering students mentioned that their English skills could be improved while 91.30% of Pharmaceutical Science students said that they could gain English skills. The difference in the responses was probably due to their English background. The former got better grades in English than the latter. On the other hand, Engineering students felt that they gained a lot from their presentation skills. Only 8.70% of Pharmaceutical Science students said that they learned about presentation skills. One possible explanation is that presentation skills need higher linguistic skills and speaking ability. "Poor" students might not feel comfortable doing

this task. However, there was no statistical difference between the responses of the two groups when language skills were investigated. The chi square value is 3.46.

Concerning non-linguistic factors, the two groups indicated different opinions significantly (chi square = 4.74, p<.05). Pharmaceutical Science students learned more about non-linguistic skills than Engineering students. When examining the details, the Engineering students said they gained the most in IT competence (62.50%), cognitive skills second (20%) and affect last (17.50%). Similarly, Pharmaceutical Science students said that they mostly learned about IT (56.45%), cognitive skills

next (24.19%) and affect last (19.35%). In addition, both groups gave the following suggestions.

Suggestions for the WWW task

Engineering Students:

The computer should be used during the presentation. (n=1)

Pharmaceutical Science Students:

1. New web sites should be regularly introduced. (n=5)
2. The content should not be too broad. (n=1)

3. The content should not be related to academic fields. (n=1)
4. The presentations should be more creative. (n=1)
5. Transparencies directly taken from the Internet should be used. (n=1)
6. Only main points should be presented. (n=1)
7. More illustrations like flow charts should be used. (n=1)
8. The WWW task should be an individual piece of work. (n=1)

E-Mail

Table 5 reveals the students' feedback on the e-mail task.

Table 5. Students' Feedback on the E- Mail Task

Students	Positive Response	Negative Square	No	Chi
Engineering	24 (85.71%)	4 (14.29%)	-	12.90** P<.01
Pharmacy	23 (71.88%)	6 (18.75%)	3 (9.38%)	19.57** P<.01
Total	47 (78.33%)	6 (18.75%)	3 (5%)	53.23** p<.01

(The qualitative data on the e-mail task are provided in Appendix B.)

Both groups were positive about the e-mail activity. Eighty-five point seventy-one percent of Engineering students significantly liked to e-mail while 14.29% did not. The chi square value is 12.90 and is significant at the .01 level. Similarly, Pharmaceutical Science students significantly liked the activity although the percentage is lower (71.88%, chi square = 19.57, p<.01). Eighteen point seventy-five percent gave negative feedback about the task. This is mainly caused by their inability

to use the computer or to get access to computers as indicated by their comments. Those who liked this activity said that they could improve their language skills. Besides, it is a faster means of communication, and they can gain more IT experience. In all, both groups preferred this task significantly. The chi square test yields the value of 53.23 which is significant at .01 level.

When asked about their skills and knowledge in performing the e-mail task, both groups show their responses in Table 6.

Table 6. Students' Skills and Knowledge in Performing the E-Mail Task

Skills and Knowledge	Engineering	Pharmacy	Chi Square
Language Skills			
1. Writing	9 (60%)	9 (75%)	
2. Structures	3 (20%)	1 (8.33%)	
3. Errors	3 (20%)	2 (16.67%)	
Total	15 (55.56%)	12 (44.44%)	.34
Non-Linguistic Factors			
1. Cognitive skills	1 (4.35%)	2 (5.12%)	
2. Affect	3 (13.04%)	1 (2.56%)	
3. IT competence	17 (73.91%)	31 (79.49%)	
4. Typing	2 (8.70%)	5 (12.82%)	
Total	23 (37.10%)	39 (62.90%)	4.12* (p<.05)

In terms of language skills, there was no statistical difference between the two groups although they mentioned that they learned about writing the most (60% for Engineering students and 75% for Pharmaceutical Science students). The others thought that they gained knowledge about structures and learned from error correction.

As regards to non-linguistic factors, both groups differed significantly in their responses (chi square = 4.12, $p < .05$).

However, when examining the details, the responses were similar in terms of ranking. They ranked IT competence first. One unexpected answer is "typing." This is because some students did not learn how to type in high school.

Even though there were only fifteen Engineering students and twelve Pharmaceutical Science students who wrote in their own words, the majority of both groups thought that they learned from the teacher's feedback as illustrated in Table 7.

Table 7. Students' Learning from the Teacher's Feedback on the E- Mail Task

Students	Positive Response	Negative Square	No	Chi
Engineering	22 (88%)	3 (12%)	-	12.96** (p<.01)
Pharmacy	25 (78.13%)	4 (12.5%)	3 (9.38%)	26.32** (p<.01)
Total	47 (82.46%)	7 (12.28%)	3 (5.26%)	59.42** (p<.01)

(See Appendix C for the qualitative data on this topic.)

Eighty-eight percent of Engineering students were positive about the teacher's feedback on their e-mail assignments. Seventy-eight point thirteen percent of Pharmaceutical Science students were also positive. The difference may be due to the fact that "good" students may prefer the teacher's corrections. There were significant differences between the number of positive responses and negative ones. All chi square values are significant at .01 level and some of them preferred to have more e-mail assignments as indicated in their suggestions.

CONCLUSIONS

This article investigated the use of two net tasks, i.e., web sites and e-mail, to supplement regular English courses at Chulalongkorn University Language Institute. To obtain valid and reliable information, two studies were carried out. The first group of subjects were twenty-five first year Engineering students who enrolled in Foundation English I in the first semester of the 1998 academic year. The second group of subjects were thirty-two first year Pharmaceutical Science students enrolled in Foundation English II in the second semester of the same academic year. The instruments were two questionnaires eliciting both quantitative and qualitative responses concerning the students' attitudes towards the use of the aforementioned net tasks.

The analysis yielded the following results. The students thought that the two net

tasks can contribute to their language skills, cognitive skills, affect and IT competence. As regards to the web site activity, the students from both groups indicated that they learned both English skills (reading, writing, listening and speaking) and presentation skills. They also gained IT competence (learning about the Internet and knowing more web sites) apart from gaining knowledge from each web site as reported by friends. In addition, the task supported collaborative work.

In terms of e-mail, the students mentioned that they learned about writing, structures and error corrections from the teacher's feedback. Similar to the web site activity, the students had more IT experience. Some of them said that they could exchange ideas with friends, work with friends and even learn to type.

Engineering students and Pharmaceutical Science students did not differ significantly in their attitudes about learning language skills from the two tasks. However, when examining factors relating to non-linguistic skills, the two groups differed significantly in their opinions. Pharmaceutical Science students mentioned that they learned more about IT from the two tasks.

In conclusion, the employment of net tasks to supplement regular English courses seem to enhance students' language skills and the IT competence of Engineering and Pharmaceutical Science first year students. However, more research studies to investigate the relationships between net tasks and language performance of students from other fields need to be carried out.

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APPENDIX A

The skills and knowledge the students obtained from doing the WWW activity

Comments from Engineering students:

a. Positive Feedback

- I know more web sites. (n=9)
- I enjoy new web sites. (n=6)
- I learn about the Internet. (n=3)
- I gain more confidence using IT. (n=1)
- I appreciate help from friends. (n=1)
- It's an innovative activity. (n=1)

b. Negative Feedback

- I don't like the computer. (n=1)
- Some web sites are not attractive. (n=1)

Comments from Pharmaceutical Science students:

a. Positive Feedback

- I know more web sites. (n=6)
- The activity supports collaborative work. (n=2)
- I enjoy new web sites. (n=1)
- I gain more IT experience. (n=1)
- It's an innovative activity. (n=1)

b. Negative Feedback

- I didn't learn anything new during the presentation. (n=1)

APPENDIX B

The students' feedback on the e-mail task

Comments from Engineering students:

a. Positive Feedback

- The task can improve language skills. (n=7)
- I can know more e-mail addresses. (n=6)
- I gained more e-mail experience. (n=4)
- I enjoy sending e-mail to friends. (n=3)
- I learn about typing. (n=1)
- The task supplements regular lessons. (n=1)
- It's an innovative way to send writing exercises. (n=1)
- It's challenging. (n=1)

b. Negative Feedback

There is no Internet connection at home. (n=1)

I don't know how to e-mail. (n=1)

It's more complicated. (n=1)

Comments from Pharmaceutical Science students:

a. Positive Feedback

It's faster and more convenient. (n=7)

I gain more IT experience. (n=6)

I can learn about typing. (n=3)

I enjoy sending e-mail to friends. (n=2)

It's up-to-date. (n=2)

I can make new friends. (n=1)

I am interested in this activity. (n=1)

b. Negative Feedback

There is no computer at home. (n=1)

There are some problems with the computer. (n=2)

It's time consuming. (n=2)

APPENDIX C

Students' learning from the teacher's feedback on the e-mail task

Comments from Engineering students:

a. Positive Feedback

I can learn about error correction from the teacher. (n=15)

I can learn from the clues suggested by the teacher. (n=5)

I can learn error correction from friends. (n=1)

I can learn from errors grouped by the instructor. (n=1)

b. Negative Feedback

There is no internet at home. (n=1)

I don't know how to send an e-mail. (n=1)

Comments from Pharmaceutical Science students:

a. Positive Feedback

I learn from error corrections by the instructor. (n=7)

I learn about error correction to avoid making the same mistakes. (n=6)

I learn about errors because I checked my e-mail. (n=4)

I want to know about error correction to improve my own writing. (n=3)

It's easy to read from the computer. (n=1)

b. Negative Feedback

The traditional method of handing in the assignments is faster. (n=2)

There is no computer at home. (n=2)

Suggestions on the e-mail task:

a. Engineering Students

The e-mail task should be a regular assignment. (n=6)

Interesting e-mails should be discussed in class. (n=1)

The content should not be academic. (n=1)

It's very convenient, economical and reduces the use of paper resulting in forest conservation.(n=1)

b. Pharmaceutical Science Students

There should be more e-mail assignments. (n=7)

The e-mail should be sent to foreign friends. (n=1)