# Encouraging self-directed group learning through an e-portfolio system

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**Abstract**. In this study, the researchers examined how 64 university students engaged in self-directed group learning and used a self-developed e-portfolio system. A six-week event was held where the students made entries to the e-portfolio individually each week, received feedback from advisors, studied in groups on a voluntary basis, and reflected on their group learning as a team. The data was collected from various sources including the pre- and post-TOEIC (Test of English for International Communication) or TOEFL (Test of English as a Foreign Language) test scores, group learning reflection sheets, a questionnaire, and follow-up interviews with two participants. Significant score improvements were observed in the TOEIC test results. Although the number of submitted reflection sheets did not correlate with the increase in the students' test scores, the data suggests that group learning and reflection had strengthened students' learning motivation. Moreover, mutual support from group members encouraged the participants to continue studying. Though scheduling remained the major obstacle to the collaborative process, by adding group learning to individual learning and record keeping in the e-portfolio, the students found English learning enjoyable and useful as they were able to identify gaps in their knowledge previously overlooked. This article ends with the areas to be considered for future projects.

**Keywords**: e-portfolio, group learning, autonomous learning, test preparation.

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**How to cite this article**: Fukuda, E., Suzuki, M., Hashimoto, S., & Okazaki, H. (2014). Encouraging self-directed group learning through an e-portfolio system. In S. Jager, L. Bradley, E. J. Meima, & S. Thouësny (Eds), *CALL Design: Principles and Practice*; *Proceedings of the 2014 EUROCALL Conference, Groningen, The Netherlands* (pp. 102-106). Dublin: Research-publishing.net. doi:10.14705/rpnet.2014.000202

## 1. Introduction

Electronic portfolios (e-portfolios) are increasingly used in tertiary education. As Fitch, Peet, Reed, and Tolman (2013) pointed out, "portfolios can foster the integration of […] self-reflection, group learning, and assessment" (p. 37) which could consequently maximize students' learning outcomes. The e-portfolio system of the present study was created and utilized at a private Japanese university to support students' autonomous language learning. The uniqueness of this self-developed e-portfolio system lies in an interactive function which allows communication between a learner and advisor. Through this system, students are not only able to record their reflections on their own language learning, but also receive weekly feedback from a trained advisor.

The current study attempted to incorporate group learning into autonomous learning assisted by the e-portfolio. As previous research has indicated, cooperative learning enhances group members' self-efficacy and motivation (Dörnyei & Ushioda, 2011). University students in this study formed groups of four and voluntarily studied toward a common goal to obtain a higher TOEIC or TOEFL ITP test score. After generating a study plan, students engaged in both group and self-language learning. Group learning reflection sheets were kept in paper form while individual learning reflections were recorded in the e-portfolio. Weekly feedback from an advisor was provided for only those who made e-portfolio entries.

## 2. Method

### 2.1. Participants

In the current study, the data was collected from 64 students (16 teams). Originally, 19 teams applied for the project, two teams did not take part in any e-portfolio or group learning. In addition, one team neither held a group learning session nor reported their progress in the e-portfolio system after the first week. Thus, these three groups were excluded from the data.There were 31 students who had acquired TOEIC scores in the 400s, 18 students in the 500s, and three in the 600s. For the TOEFL ITP scores, there were 11 students who were in the 400 range and one in the 500 range.

### 2.2. Procedure

The following sets of data were collected in the current research: the students' pre- and post-TOEIC or TOEFL ITP scores, two kinds of group learning reflection

sheets, a questionnaire, and interviews. The event was held in the fall semester of 2013 for six weeks. The students were required to take the same tests as the pre- and post-assessments.

Two kinds of group learning reflection sheets were available: weekly and daily reflection sheets. One worksheet was used to share individual learning in the previous week. The other was used to describe what the participants learned together on the day of group learning. The students were allowed to use this latter sheet as many times as they studied together.

A post-sessional questionnaire was devised for the present research to inquire about the students' insight into the effectiveness of the project. Eleven students cooperated with the questionnaire survey. The questionnaire included five Likert-scale type questions asking to rate how the e-portfolio and group learning assisted their learning and affected their level of motivation. In addition, three open-ended questions were incorporated to elicit further information.

Lastly, follow-up interviews were conducted with two participants in Japanese.

## 3. Result and discussion

Overall, 121 individual e-portfolio entries and 115 group learning sessions were reported in the project. First of all, the results of the pre- and post-test were compared in order to assess students' progress. In case of the TOEFL test takers, although their scores slightly improved from the pre- ($M$=465.1, $SD$=30.7) to post-test ($M$=490.6, $SD$=50.6), the result of paired-samples t-test indicated that there was no significant score improvement over the six weeks, $t(10)= 1.98$, $p>.05$.

As for the TOEIC test takers, their average test scores significantly increased from the pre- ($M$=496.9, $SD$=68.0) to post-test ($M$=525.3, $SD$=87.3), $t(39)=$, $p<.05$. The number of e-portfolio entries and group reflection sheets did not correlate with either the TOEFL test, $r(9)= .36$, $p>.05$, or TOEIC test score increase, $r(38)=.03$, $p>.05$. Perhaps, frequency of reflections is not directly related to the language learning outcomes. To further investigate the effectiveness of the project, the focus was shifted to what the students actually wrote in their reflections.

According to the daily group learning reflection sheets, the students spent time preparing for the TOEIC or TOEFL tests for 52.63% of the time. As the tests require a wide range of linguistic knowledge, vocabulary learning accounted for 21.05% of the responses and grammar 18.75%. Although knowledge-based learning is

often challenging for language learners, through group learning, the participants encouraged each other, as their responses in the questionnaires show.

One of the Likert-scale type questions was on the effects of keeping records of group learning over the individual record keeping in the e-portfolio. An item included in this question asked whether sharing individual learning done in the previous week and writing down each member's comments on the weekly group reflection sheet promoted English learning in synergy with the e-portfolio. The students showed relatively strong agreement with the item ($M$=4.45, $SD$=0.52). Another item contained in this question was whether the group record keeping made learning interesting, which gained general agreement ($M$=4.18, $SD$=0.6). Also, the respondents less agreed that there was only slight differences between individual and group record keeping ($M$=2.27, $SD$=1.10).

The second Likert-scale type item questioned how group learning affected the participants. The students agreed that group learning made learning more interesting ($M$=4.27, $SD$=0.65). Moreover, the majority thought group learning was useful ($M$=4.55, $SD$=0.69). Finally, the prominent result was found in the item on the increase of motivation in English learning. Although only 11 students responded to the questionnaire, the result showed students' highly positive perception toward group learning ($M$=4.64, $SD$=0.50).

In fact, more than 10% of the individual e-portfolio entries contained the efficiency of group learning. Most students reported that group learning allowed them to notice their own progress as well as areas of further improvements. For instance, one of the students checked vocabulary with her team members and mentioned, "Even if I thought I had memorized [the words] perfectly, I couldn't define several words in a question format. I want to continue studying like this in groups".

Furthermore, in the open-ended questions, the respondents reported that team members encouraged each other and regained motivation through studying in group even when their motivational level decreased. One student wrote in the questionnaire, "We were able to accomplish things that I would have probably given up if I had been on my own".

Finally, a drawback of this project would be a scheduling difficulty. A student noted, "When [all the members] were unable to attend a group learning session, our motivation diminished or the number of meetings declined". Thus, additional assistance for scheduling was needed.

## 4. Implications and conclusion

Integration of group learning and e-portfolios does not automatically guarantee synergetic effects. As the participants reported difficulties arranging group learning sessions, organizers should recommend students to find team members who are available during the same time periods. The students should reach an agreement on specific times and days to congregate. In addition, although the following procedure should not be mandatory since the purpose of the kind of project is to support autonomous learning, at the first orientation, the organizers could provide a weekly schedule for participants to fill out time periods for group learning sessions so that each group member can officially agree on the schedule. Once this particular obstacle is solved, the project will be even more successful in the future.

## References

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