ICT in English Teaching

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Abstract

This paper discusses the learning outcomes of Computer Assisted Language Learning (CALL) program – DynEd Courseware by DynEd International Incorporated for 367 first year students at Teacher School, Mongolian State University of Education (MSUE) during the period of August 21, 2013 – December 20, 2014. Both quantitative and qualitative methods are employed to gather the needed information on the learning outcome. Based on the pre-testing scores in August 2013 and post testing scores in December 2013, students' scores improved in post-test by 0.2 on average. The interviews and questionnaires revealed that learners found this program something different from some of our traditional English classes and interesting due to ICT application in English teaching. To sum up, ICT in English language teaching and learning offers extensive and comprehensive input in a highly learner-centered context which brings beneficial effects on both learning and teaching.

Keywords—Computer Assisted Language Learning; ICT application; DynEd Courseware; English proficiency; learner-centered context;

I. INTRODUCTION

This paper outlines the evaluation proposal of Computer Assisted Language Learning (CALL) program by DynEd International Incorporated for 367 first year students in Teacher School (TS), Mongolian State University of Education (MSUE) during the period of August 21, 2013-December 20, 2014.

The program setting

In August 2014, three computer laboratories with 21computers each were established in TS to enhance English language learning and teaching by applying Information and Communication Technology (ICT) in English language learning and teaching at TS, MSUE. It was one of the measures within the framework of educational reform initiated by the Ministry of Education and Science (MECS) and MSUE. DynEd Courseware for English teaching and learning developed by DynEd International Incorporated, USA and distributed by Steppe Learning LLC, Pacific Ocean and Central Asian Representative of DynEd International Inc., was used. Before that Steppe Learning instructors organized intensive CALL and SET training for 10 MSUE English Language Teachers for three weeks in June 2013. All 10 ELTs and 367 learners took pre- and posttests developed by DynEd International Inc. at the beginning and end of the training in the first semester. This study was conducted to discover the effect of CALL on improvement in listening and speaking skills of English as a Foreign Language (EFL) learners at TS, MSUE during the period of August -December 2013.

Literature Review

Due to increasingly diversified CALL materials, language practitioners could have adopted CALL in a wide variety of teaching contexts (Kennedy & Miceli, 2000; Hwang, 2010). Many researchers and practitioners in applied linguistics have reached a consent that the integration of computer-related technologies into the language classroom could improve learning performances (Alavl, 1994; Garret, 2009; Chapelle, 2009). Advanced computer technologies and software has been utilized as effective and attractive tools for teaching and learning languages, as well as supplemental or substituent tools of traditional classroom approaches (Hwang, 2010). Along with this awareness of the great potential computer technologies in language classrooms (Tasi & Jenks, 2009), a considerate body of research has been conducted for the purpose to investigate the effect of CALL on diverse aspects of language learning. In this context, Levy (2009) highlighted this effect of CALL in his study that described and illustrated the technologies in use in terms of major language areas and skills, that is, grammar, vocabulary, reading, writing, pronunciation, listening, speaking, and culture. In this study, he suggested that linguistic input presented in CALL involve

conscious reflection on both linguistic forms and meaning combined with usage and can result in more effective instruction and language performance. Peterson (2010) also suggested that CALL using computerized game and simulations could present valuable opportunities to offer extensive and comprehensive input in a highly learner-centered context. Tasi and Jenks (2009) found that learning foreign language vocabulary using computerized media can be more effective than without such technological aids. They found that computerizing supplemental treatment produced a significant difference in learners learning, when compared to traditional language instruction and drew a conclusion that computerized media and multimedia environments can enhance learners' acquisition of foreign vocabulary. Another language area that CALL effect was proven is described in Sullivan et al.'s study (1998). They reached a conclusion that CALL could provide useful additional information about the writing process by helping students and teachers to identify strengths and weaknesses in written proficiency. As for writing skills, Fidaoui et al. (2010) also proved the effectiveness of CALL on motivating students to produce work of high quality. Jakobsdottir and Hooper proved the effect that CALL could have on learners' listening skill improvement by presenting spoken language with text in the study they conducted in 1995. In addition, Miceli and Kennedy (2000) conducted a study in an attempt to integrate CALL into communicative contexts and proved that students were actively engaged in conversation in a computer-mediated environment. In this context, the present study was conducted to investigate the efficiency of CALL for EFL learners at TS, MSUE.

Research question

This study constitutes an attempt to address some of the perceived advantages of CALL in a Mongolian EFL situation and considers the following research question:

- Would CALL learners significantly do better at the CALL posttest than at the pretest?

Method

The program setting

Those freshmen were equally divided into 20 CALL groups with around 20 students each and they have been taught general English course with DynEd Courseware by 10 instructors for 256 academic hours in two semesters in the school year 2013-2014. It is supposed to finish in May 2014. One instructor is responsible for 2 groups and one CALL session lasted 90 minutes each thrice a week due to the availability of the computer laboratory. All three laboratories were equipped with 21 computers with DynEd Courseware, projector, LCD screen and 3- in-1 printer. Instructors monitor the process of CALL learning.

CALL students are also encouraged to study CALL program in their spare time individually if there are no scheduled classes in the computer lab. In September 2013, students were allowed to install the software into their laptop computers to study at home.

The medium of instruction is supposed to be English in the classroom and CALL students will study DynEd Courseware until the mid of May 2014. This program focuses on improving English listening and speaking skills which are the main weaknesses of Mongolian learners of English.

Participants

367 beginners and few pre-intermediate-level students, 17 males and 350 females, aged 17-20, participated in the study. Their first language (L1) is Mongolian and they were majoring in primary school teaching at TS, MSUE.

Instruments and Procedures

Both quantitative and qualitative methods are employed to gather the needed information on the learning outcome.

Quantitative:

i. Pre-testing scores in August 2013
ii. Post testing scores in December 2013

All 367 CALL students sat online pre-test at the beginning of the training in August 2013 and a post-test in December 2013.

Testing Instruments

Both CALL pre- and post- tests were developed by DynEd International Inc. and the scoring range of DynEd's general placement test is 0 - 3.5 which was a quick evaluation of a mix of language skills with an emphasis on listening comprehension, vocabulary, grammar, and basic reading skills. It lasted 10- 30 minutes depending on the learner level of English language proficiency. The more proficient student was, the higher level of tests was available for that student. If student scored less than 1.0, the next level of the test was not assigned automatically.

Qualitative:

In this study, self-report methods such as interviews and questionnaires have been employed to obtain qualitative data.

Questionnaires for CALL students

Anonymous questionnaires are completed by 50 CALL students. Questionnaires are cheaper and more cost-efficient than interviews. The sample questionnaire was completed before conversational and focused interviews.

ii. *Formal interview with other three instructors*

A highly structured formal interview was conducted to other three instructors in the program.

iii. Conversational and focused interviews with students in CALL

Randomly selected 10 students were interviewed to clarify some answers. A sample of topics in the focused interview was developed.

iv. *Unstructured observation of CALL*

Classroom observation in the computer laboratory D-109 belongs to the direct "first-hand" description. The samples of questions in interviews and questionnaire are the first attempts so there might be questions which would contaminate evaluation findings. Thus they need proper piloting.

Data Analysis

All scores were entered into PASW Statistics (SPSS) 22.0 and a range of descriptive statistics and comparisons were computed. The following analyses were used to answer the research question. First, descriptive statistics for the pre- and post- testing scores were computed. Second, CALL learners were measured on the performances of online pre- and post-tests as dependent variables by using a t-test for dependent samples.

Results

Table 1. Frequency of Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.0	235	64.0	64.0	64.0
	.2	101	27.5	27.5	91.6
	.5	28	7.6	7.6	99.2
	.7	2	.5	.5	99.7
	1.0	1	.3	.3	100.0
	Total	367	100.0	100.0	

64% or 235 students out of 367 students scored 0 whereas only one student i.e. 0.3% scored 1.0 in the pretest.

Table 2. Frequency of Posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.0	79	21.5	21.5	21.5
	.2	106	28.9	28.9	50.4
	.5	135	36.8	36.8	87.2
	.7	44	12.0	12.0	99.2
	1.0	2	.5	.5	99.7
	1.2	1	.3	.3	100.0
	Total	367	100.0	100.0	

21,5% or 79 out of 367 students scored 0 while only one student scored 1.2 in the posttest.

The means and standard deviations of pre- and post- test scores are reported in Table 3.

Table 3. *Scores of pretest and posttest in CALL*

Descriptive Statistics

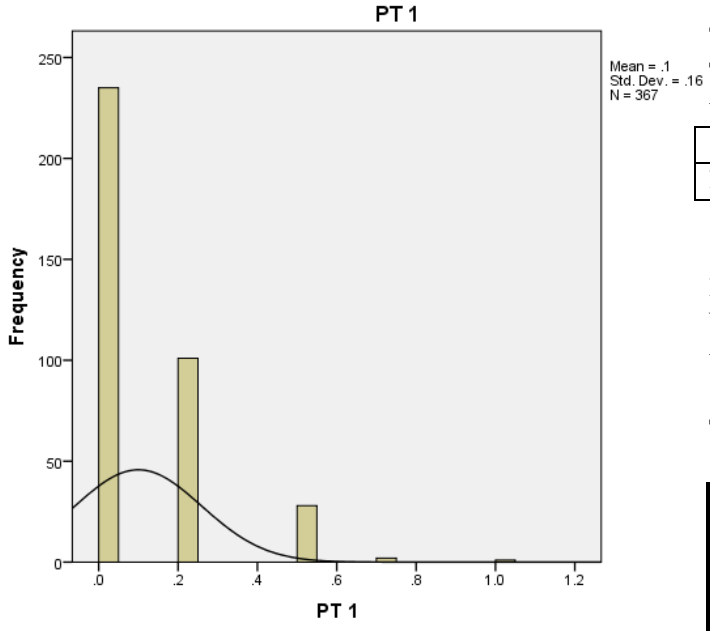
Placement Tests (PTs)	N	Minimum	Maximum	Mean
PT 1	367	.0	1.0	.10
PT 2	367	.0	1.2	.33

The maximum possible score on the CALL test was 3.5 for non-native English speaker and none of the participants reached it and scored very low. The data in Table 1 reveal that the pre- and post- test scores were generally low and the highest score on the pre-test was 1.0 whereas it was 1.2 on the post-test. In the pre-test, the standard deviation, the average amount of variability in a set of scores, is .1600 whereas it was .2450 in the post-test. The standard deviation (0.1600) in the pretest shows that the values are hugely spread out because it exceeds the mean (0.100). Thus it is technically weird.

As for the standard deviation (0.2450) in the posttest shows that the values are quite spread out and there is some variability in the scores. But it does not exceed the means (0.334) so it is not technically weird.

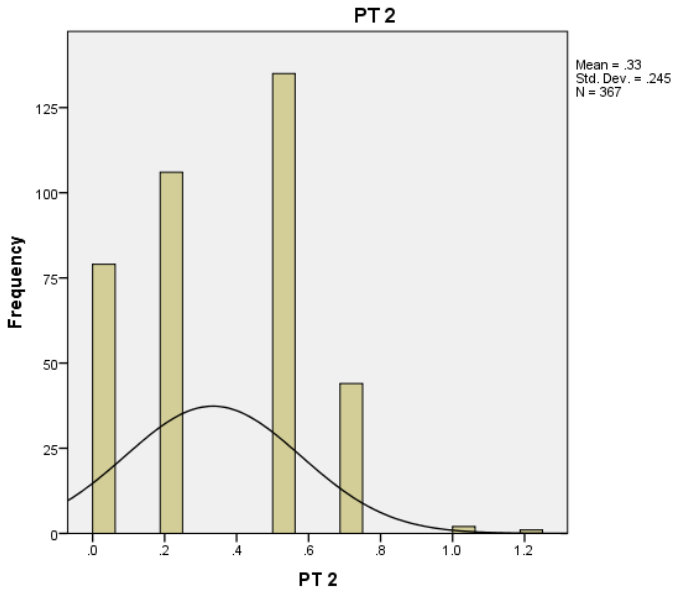
The dispersions of the scores in both tests were shown in the histograms.

Histogram 1. *Dispersion of the scores in pretest (PT 1)*



In Histogram 1, the curve for distribution of pre-test scores is less normal or bell-shaped compared to the curve for post-test scores in Histogram 2. The curves in both histograms are somewhat asymptotic because their left ends get closer to the x-axis but they do not touch it.

Histogram 2. *Dispersion of the scores in posttest (PT 2)*



The means and standard deviations of performances on pre- and post- tests are compared in Table 3 and this comparison clearly indicates that both means and standard deviations of the post-test are higher than those of the pre-test. Moreover, it was confirmed by a further paired samples t-test which revealed that there was a statistically significant difference between the means of pre- and post-test scores at $p < .001$ in Table 4.

Table 4. Comparison of learner performance in pre- and post-tests

	t	df	Sig. (2-tailed)
Pretest score -posttest score	-19.710	366	.000

Moreover, the data in Table 5 presents that learners scored better by 0.2346 on average in the post -test than in the pre-test.

Table 5. Difference in the performance on pre- and post- tests

		Paired Differences	
		Mean	Std. Deviation
Pair 1	PT 1 - PT 2	-.2346	.2280

On the other hand, change in placement test was shown in groups in Table 6.

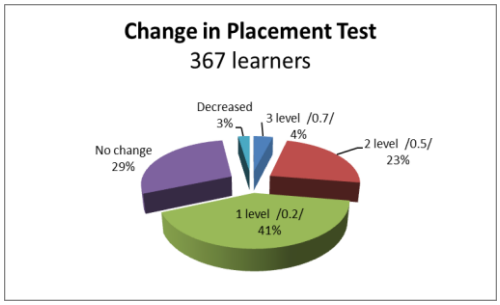
Table 6.

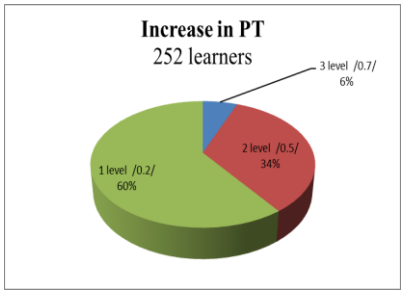
Change in Placement Test /367 students/

Groups	3 - level change /0.7/	2-level change /0.5/	1-level change /0.2/	No change	Decrease in PT	Students
1		2	7	8		17
2	1	4	8	6		19
3		5	8	6		19
4		7	8	4		19
5	3	1	9	7		20
6		6	4	8		18
7		6	10	2		18
8		5	8	7		20
9		2	7	6	3	18
10	1	3	7	9		20
11	1	5	4	10		20
12		2	8	8	1	19
13	2	10	4	1		17
14	1	5	13			19
15	2	4	10	3		19
16		2	8	3	3	16
17	1	5	4	6		16
18	1	3	6	5	2	17
19	2	6	6	3		17

20		3	12	4		19
Total	**15**	**86**	**151**	**106**	**9**	**367**
Percentage	***4.09***	***23.43***	***41.14***	***28.88***	***2.45***	***100***
	68.66					

Graph 1. Difference in pretest and posttest results





In sum, learner scores increased in the posttest by 0.2346 on average. 68,7% or 252 out of 367 learners' scores increased by 0.2-0.7 in post-test. There was no change in the pre- and posttest scores for 28,9% or 106 students while there was decrease in the scores of 2.5% or 9 learners. 11 out of 378 students did not sit the posttest.

Qualitative data analysis

Qualitative data collected from formal, informal and focused interviews, unstructured observation and questionnaires can be valuable but they are more difficult to analyze than quantitative data. According to Lynch (1996), the first step in the nonlinear, iterative process of qualitative data analysis is to *focus* the evaluation. In this case, most CALL students found this program interesting due to ICT application in English teaching. In these lessons, native speakers of American English talk about a wide range of topics in natural English that is something different from some of our traditional English classes.

Discussion

The research question asked whether learners perform better on the post-test rather than the pre-test. The result of the paired samples t-test indicated that there was a statistically significant difference in the pre- and post- tests in the CALL program. Moreover, computer familiarity might not have affected on some low scores in the pre-test as students were asked to do the practice test 3 times at least before taking the placement test.

Conclusion

Language learning is a complex process so it is not always easy to measure the gains exactly. However, summative and product oriented evaluation of CALL program at TS, MSUE was conducted to describe its learning outcome. As Hwang (2010) noted, advanced computer technologies and software has been utilized as effective and attractive tools for teaching and learning languages, as well as supplemental or substituent tools of traditional classroom approaches. The current study was designed with this point in mind to address the gain from the MSUE CALL program. In terms of the gain, the answer to this central question is "yes". The learners did perform better on the post-test than the pre-test after the CALL treatment for four months. However, there could be some other factors such as the practice effect as well as maturation to this gain outside the treatment.

Based on an increase in pre- and post-testing scores, it can be concluded that this 4-month CALL program was effective to improve English listening and speaking skills of 367 freshmen. It also offers extensive and comprehensive input in a highly learner-centered context which brings beneficial effects on both learning and teaching. Its findings of qualitative data suggested that CALL students found this program interesting due to ICT application in English teaching.

REFERENCES

[1] Alavl, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly*, June, 159-174.

[2] Chapelle, C, A. (2009). The relationship between second language acquisition theory and computer-assisted language learning. *The Modern Language Journal*, 93 (9), 741-753.

[3] Fidaoui, D., Bahous, R., & Bacha, N. (2010). CALL in Lebanese elementary ESL writing classrooms. *Computer Assisted Language Learning*, 23 (2), 151- 168.

[4] Garrett, N. (2009). Computer-assisted language learning trends and issues revisited: Integrating innovation. *The Modern Language Journal*, 93 (9), 719-740.

[5] Levy, M. (2009). Technologies in use for second language learning. *The Modern Language Journal*, 93 (9), 769-782.

[6] Miceli, T. & Kennedy, C. (2000). CALL in communicative context. *Babel*, 35 (1), 18-23.

[7] Pajares, F. (2001). Toward a positive psychology of academic motivation. The Journal of Educational Research, 95 (1), 27-34.

[8] Peterson, M. (2010). Computerized games and simulations in computer-assisted language learning: A meta-analysis of research. *Simulation & Gaming*, 41 (1), 72-93.

[9] Salkind, J.N. (2008). *Statistics for people who (think they) hate statistics*, 3rd ed., California, U.S.A: Sage Publications.

[10] Sullivan, K., Kollberg, P., & Palson, E. (1998). Trace-it: A computer tool with application to the second language classroom. *Babel*, 33 (1), 22-38.

[11] Tsai, R., & Jenks, M. (2009). Teacher-guided interactive multimedia for teaching English in an EFL contexts. *Journal of Educational Multimedia and Hypermedia*, 18 (1), 91-111.