COMPUTER INTERACTIVE LANGUAGE STUDIES (CILS): AN AID IN JOB-HUNTING FOR COMPUTER AND CIVIL ENGINEERING GRADUATES

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ABSTRACT

Research shows that engineers are weak in communications skills; thus, engineering graduates often have lesser opportunity of being hired by the industry right after graduation. The school prepares engineering students to be adept in English because of its worldwide use. Enhanced communication skills in English can result to an improved social life and better job opportunities. This study determined the relationship of language performance, academic performance and their effect to job-placement of Fourth- and Fifth-year Computer and Civil Engineering students who were enrolled in Computer-aided Interactive Language Studies (CILS) for two semesters at Sultan Kudarat State University, College of Engineering, Isulan, Sultan Kudarat, Philippines. Specifically, it sought to figure out whether improved language performance in communication skills can improve their chances of being employed easily, especially in their fields of specialization. Quasi-experimental research was used to determine their relationship. Correlation T-test, Analysis of Variance (ANOVA) and Post-Hoc test were the tools used for analysis of data. Pre-test and post-test results showed that with CILS, students' communication skills improved. Language studies performance was then compared to their major subject grades to determine if it is significant to finding a job easily. Improvement in communication skills is correlated with improved grades in major subjects and it allowed graduates to find a job in their respective fields within one to six months after graduation.

Keywords: Computer-aided Interactive Language Studies, Communication Skills, Quasi-experiment, Engineers, Employment, Philippines

INTRODUCTION

Engineering profession has an international affiliation and global access. International communication skills are needed for engineering graduates in the workplace.

English language is important as shown in the study of Awasthi, et.al. (2016). English proficiency affects the communication skills of Engineers globally. Pandey and Pandey (2014) argued that enhanced communication skills in English can result to not only an improved social life, but also better job opportunities in the future. Students in engineering are prepared in school to be adept in English because of its worldwide use. As discussed by Thimmesha, et al. (2016), the world is shrinking into a global community, hence, effective communication skills are necessary for engineers. However, Mison (2018) said that despite the efforts of the school, it was found out that students are still insubstantial in this area because of their attitude towards communication, and they lack

the persistence to practice using and speaking English language. In addition, Dimmitt et al. (2012), expressed that technical communication skills are challenging to teach to non-native English speaker.

Managers in the industry consider engineering graduates to be weak in communication skills. Donnell et al. (2011) asserted that there was disparity in the study of the academe and the industry about the oral and written communication skills of the graduates in engineering. This impairment limits the full potential of the graduates to be hired promptly. The disparity between the academe and the industry arises because communication situation in college differ from situations in the workplace. Moreover, engineering graduates lack the ability to realize what communication principles are applicable in the industry and in their workplace. Unfortunately, job entry level requirements for engineering graduates depends on their communication skills, their ability to convey their ideas verbally and in writing using English language.

OBJECTIVES OF THE STUDY

The study generally aimed to determine the effect of CILS to job hunting and job placement of engineering graduates with the following specific objectives: 1) determine the relationship of the Computer Interactive Language Studies (CILS) with the academic performance of the respondents; 2) know the ability of the graduates to get jobs relevant to their field of specialization; 3) determine the time the respondent landed on a job; and 4) provide a baseline data to come up with a probable proposal for curriculum re-visit.

Data gathered from the survey of the job and time the respondents spent in landing a job will answer these objectives. This will also generate evidence that the CILS can make the difference in the skill of engineering graduates in communicating in English. Therefore, this will open a chance to

the CILS to be included in the curriculum of the institution.

METHODOLOGY

The study was conducted in Sultan Kudarat State University. A total of 76 students from each group (38 from Computer Engineering and 38 from Civil Engineering) who were in their fourth year and fifth year of study were randomly selected as respondents of the study. Moreover, they were enrolled for two semesters in Computer Interactive Language Studies (CILS).

Quasi-experimental research was used in the study. Using the DynEd Software, a pre-test and a post-test were conducted to determine their level of proficiency in oral and written communication in English. The DynEd Software is an interactive computer system used in CILS to expose students to English Language in different contexts. The resulting CILS performance grades were compared with their major subject grades to determine if their performance in major subjects and in CILS were correlated and significant.

Data were gathered after they have graduated. The parameters of the time they landed a job after graduation were identified and categorized into six months after graduation, one year after graduation, two years after graduation, and more than two years after graduation.

Correlation was used to determine the field in which the graduates will likely to be employed; either they were employed in engineering field or other line of work. Their performances between their major subjects and the CILS were compared to determine whether they influenced their current job.

The grades and performance ratings were evaluated using t-test and correlated to CILS performance as well as the field in which the graduate will likely to be employed. Analysis of Variance (ANOVA) was used to determine the relationship of CILS performance and their employability in terms of time they were employed after graduation. Moreover, ANOVA was also used in the

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assessment of their performance in CILS and in the area of their employment.

Results of the study revealed that in terms of the time it took the graduates to be employed, the relevance of their job to engineering field, and their performances, the null hypothesis was rejected. Post-hoc test was also done to determine each individual parameter results.

1. Correlation of CILS Performance as compared to Academic Performance

Table 1 show the means of the parameters A, the data for CILS performance of the respondents; B, the data for academic grade of the students; C, the relevance of job of the graduate to its engineering course; and D, the specified time the graduate lands a job.

Table 1
Mean Score of the Responses of the Respondents

Treatment	A	B	C	D
Mean	0.5553	1.9271	2.3684	1.3158
Standard Deviation	0.0655	0.0853	0.2907	0.0764

A is the Performance of Students in CILS
B is the Performance of the Students in their Major Subject
C is the relevance of Job to Engineering
D is the time in job hunting

Results of the study in Table 1, parameter A was compared to parameter B to determine if they were correlated, showed that the value of R in the Pearson Correlation was equal to 0.3743 which signifies a weak relationship between the major subject grades and CILS performance. Further investigation using t-test revealed that the t-value was not significant at -1.45656.

2. Correlation of Performance in Academic as compared to Related Job Employment

Similarly, in parameters B and C, the result of correlation between *"being good in their major subject will employ them in engineering related jobs"* and *"being good in CILS employs them in other fields"* were not correlated with the value of R which was -

0.1115. However, it was found significant with t-value which was equal to 12.7559.

3. Correlation of Performance in CILS, and Academic Performance as compared to the Time it took them to be Employed

The result of the study on the time it took the graduates to be employed as assessed with the relevance of their job to engineering field, and with their performances led to the rejection of the null hypothesis. The p-value corresponding to the F-statistics of one-way ANOVA was lower than 0.05, suggesting that one or more treatments were significantly different. The results were inconclusive; therefore, a Post Hoc test was done to determine each individual parameter results.

Table 2 below shows the results of the Post Hoc test. It consists of the Tukey HSD test, Scheffé, Bonferroni, and Holm multiple comparison tests.

Table 2
Result of Post-Hoc Test

Treatment in Pair	Tukey HSD	Scheffé	Bonferroni	Holm
A vs B	significant	significant	significant	Significant
A vs C	significant	significant	significant	Significant
A vs D	significant	significant	significant	Significant
B vs C	insignificant	Insignificant	insignificant	insignificant
B vs D	significant	Insignificant	significant	Significant
C vs D	significant	significant	significant	Significant

A is the Performance of Students in CILS
B is the Performance of the Students in their Major Subject
C is the relevance of Job to Engineering
D is the time in job hunting

The Tukey HSD test, Scheffé, Bonferroni, and Holm multiple comparison tests were followed. These post-hoc tests would likely identify which of the pairs of treatments were significantly different from each other.

Given the data, the results of the Post Hoc Test which compared the results of the four tests showed that the grade in major subject was insignificant to the time the graduates landed a job. Scheffe test revealed that the grade in major subject was

insignificant as assessed with the job relevance to the engineering field of the graduates after graduation. On the other hand, the table shows that when performance in CILS was assessed with the time and relevance of the job, it was found out significant.

Furthermore, comparing the performance of the respondents in CILS and their grade in major subjects, it showed that they are significant. This indicated that their English language proficiency determines their performance in their major subjects. That is, when they are good in English language, they are also good in their major subjects.

The same is true when performance to CILS was compared to the relevance of the job and the time it took the respondents to land a job. Results showed that better performance in CILS leads to more chances of landing a relevant job at a shorter time.

CONCLUSIONS

Based from the results of the study, the following conclusions were drawn:

1. The exposure of students to CILS equipped them with knowledge and skills that they can use to improve their chances to be hired quickly in the field of their expertise.

2. The study can be used as predictor in Job Hunting for engineering graduates and can serve as a basis for replication with other courses. This study can influence change in curriculum of the institution.

3. Furthermore, the study may lead to curriculum revisit in the Higher Education Institutions for the probable inclusion of the CILS across all discipline.

RECOMMENDATIONS

Based from the concluded study, it is recommended that for future research, the General Point Average in the major subjects should be used to measure the academic performance of the respondents so that data will be more reliable.

The CILS was found useful to the respondents; hence, it is recommended that it will be included in the curriculum across all fields of discipline.

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