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An ESL Program in Higher Education: Is An ESL Program Only Enough to Develop ESL Learners' CALP?

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The primary purpose of this study was to report overall findings of academic English proficiency of university ESL students in an ESL program from 2003 to 2008 at a university in the U.S. Furthermore, this study proposes to explore the effectiveness of the ESL program on developing the ESL learners' academic English proficiency. In order to achieve these purposes, this study applied a quantitative research methodology which analyzed data (more than 3,000 samples) collected by the university ESL program. The data included the ESL learners' English proficiency test scores. The results indicated that the effectiveness of the ESL program was significant in improving the ESL learners' cognitive/academic language proficiency across all three groups: ESL-only, ESL + Under, and ESL + Grad. That is, after either a complete ESL program intervention only or both a partial ESL program intervention and taking academic courses, the three groups' academic English proficiency was increased to almost same degree The findings are discussed and implications for pedagogy are suggested.

[ESL/ESL program/CALP]

I. INTRODUCTION

The number of international students pursuing academic success in the United States has

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been increasing over the past decades. According to the Student and Exchange Visitor Information System (SEVIS) data that the U.S. Department of Homeland Security released in 2011, there are currently 820,423 active nonimmigrant students in the U.S. and 68% of them are enrolled in undergraduate and graduate programs. The number is anticipated to continue to grow.

However, little has been systematically known about the population and research of these university ESL learners: what types of instruction are implemented and how they impact on university ESL learners' cognitive/academic language proficiency while taking ESL classes especially in higher education. For university ESL learners, an intensive ESL program as a transition has been prerequisite to the pursuit of academic study in US higher education over the past decades. It is presumed that a university ESL program focusing mainly on adult ESL learners' academic language proficiency is more likely to keep them from entering the mainstream classroom until the cut-off scores set by the ESL program are met.

Within the framework of Cummins's (1981) Cognitive Academic Language Proficiency (CALP), a University ESL program seems too limited to fulfill the needs of ESL students because a University ESL program is a short-term, intensive language training program; that is, it takes about five to ten years for ESL students to be proficient enough to take content knowledge classes, so the role of ESL should be reset to balance both academic and communicative language proficiency. It is therefore necessary to look closely at how ESL programs affect university ESL students' cognitive/academic language proficiency for a long-term effect with longitudinal data.

Our primary research purpose is to report the overall findings from the data collected from an ESL program and suggest instructional implications. In order to meet these purposes, this study addresses the following research questions to examine:

1. What are the characteristics of ESL learners' language proficiency in higher education based on the 2003-2008 data?
2. Is there a difference between an ESL+ academic course taking group and an ESL-only group?

II. LITERATURE REVIEW

1. ESL Programs in Pre K-12 and Higher Education

Minaya-Rowe (2008) described major pre K-12 ESL programs that school districts in the U.S. implement. Two-thirds of the ESL programs in school districts of U.S. fit into five instructional methods: two-way bilingual programs, transitional bilingual education

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programs, sheltered English or content-based English as a second language, ESL pullout/push-in programs, and Newcomer programs. The characteristics of the pre K-12 ESL programs are more likely to fit into a transitional and content-based ESL curriculum within the framework of a Cognitive Academic Language Learning Approach (Chamot & O'Malley, 1987). Pre K-12 ESLs, for instance, who arrive in the US, are given an equal opportunity to participate in uninterrupted content knowledge learning with their English native peers in the mainstream classroom while receiving additional ESL.

Unlike the ESL programs in K-12 that provide a variety of programs to support ESL learners, the programs in higher education have been centered on a few particular types. In recent times, not a great deal of research has been carried out on ESL programs in higher education. It seems, however, that a common type of ESL program in universities and colleges is the ESL-only English program. Brooks (1988) reports on an ESL program at Brooklyn College, a unit of the City University of New York. The ESL program offered nine levels of ESL classes for writing, reading, and speaking. First, students were required to take academic skill assessment tests offered by the school. If their scores are below the cut-off score set by the college, they are required to take ESL courses according to their scores. Song (2006) also described an ESL program at Kingsborough Community College in her article. The ESL program provided ESL students with English-only ESL classes, and exited the students who passed the university's reading and writing proficiency tests.

The state university located in mid-west from which this data was collected also provides an ESL program to students whose first language is not English. An English proficiency test is mandatory to new students unless they earned the required TOEFL scores, and students who do not pass the proficiency test have to take ESL courses. At the end of each semester, they take the English proficiency tests again; then, it is decided whether they will keep taking the ESL courses or exit the ESL program. If a student passes a particular section of the proficiency tests, he/she is allowed to take limited academic classes.

2. CALP Development through Content-Based Instruction (CBI)

Cummins (1979, 1999) introduced the concepts of CALP and basic interpersonal communicative skills (BICS), and differentiated between them. He noted that, unlike BICS which take about two years to be acquired, CALP takes five to ten years to be acquired. To reach the proficiency level of CALP which was conceptualized as "manipulation of language in decontextualized academic situations" (Cummins, 1992, p. 17), researchers suggest CBI as an appropriate environment that would allow ESL learners the experience and practice to develop CALP (Chamot & O'Mally, 1989; Crandell, 1987). CBI integrates language use and content knowledge together through underlying knowledge structure; it produces better achievement levels in ESL learners than traditional language instruction

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(Leung, 2007; Skehan, 2007).

The rational of CBI originates in Krashen's (1983, 1985) input hypothesis defined as language acquisition that takes place when language learners receive adequate comprehensible input. To proceed to the next stage of language proficiency, language learners need comprehensible input that contains the characteristics of the next stage (i+1) (Krashen, 1985). Snow (2005) argued that "comprehensible input, provided through the content materials leads to language acquisition" (p. 693). Lightbown and Spada (2006) also claimed that CBI "increases the amount of time for learners to be exposed to the new language. It creates a genuine need to communicate, motivating students to acquire language in order to understand the content" (p. 159).

3. Alternative ESL Programs: Sheltered Language Teaching

Sheltered English is one of the major program models for ESL students. Sheltered language teaching aims for ESL learners to learn English within certain content. It starts "as a transitional program in the content area," but it has taken over language classes in many districts (Sobul, 1995); it has come to be considered the most beneficial program for ESL learners in the U.S. (Faltis, 1993). Several researchers reported on sheltered English programs that their schools or states have implemented through K-12. Sobul (1995) reported on the Specially Designed Academic Instruction in English (SDAIE) that the schools in California implemented for their ESL students who reached the level of intermediate in both English proficiency and cognitive ability. SDAIE accepted students into it who acquired both the cognitive academic language proficiencies in their first language and intermediate language proficiency in English because those characteristics ensure that the students were not lost and could interact with their peers enough to survive. Through SDAIE, ESL students entered subject-matter classes, and learned subject matter content in English that was not watered down but was deliberately designed to meet the demands of ESL learners. It used adjusted "methodologies, teacher preparation, and the development of bilingual proficiencies" to ensure appropriateness for ESL learners (p. 2).

Higher education has also adapted sheltered instruction. Andrade (2001) introduced the adjunct model for advanced-level students at Brigham Young University-Hawaii (BYUH). The school opened general content courses to advanced-level ESL students. The students were allowed to take content courses such as "biology, health, humanities, music, physical science, political science, and psychology" as well as an ESL course adjunct course (p. 35). In the adjunct course, the instructor provided students with extra exercises, and tasks based on the content text. The unique feature of this adjunct program was that the instructors join the students in the content classes in order to assist the ESL students on language, acculturation, and study skills. Andrade (2001) reported that adjunct students succeeded in

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both adjunct and content courses, and benefited from the opportunity to interact with native speakers of English in the content courses.

III. METHOD

1. Participants

Over 3000 university ESL learners were enrolled in an ESL program at a university in a Midwestern area. The center for the ESL program collected data on the students from 2003 to 2008, and this study analyzed the data. The students from many different countries were linguistically and culturally diverse. They were studying English as a second language (ESL) at the University. The students were divided into three groups: 1) ESL-only group, 2) ESL + Undergraduate group, and 3) ESL + Graduate. The ESL-only group consisted of students taking only ESL classes provided by the ESL program as preparation for a proficiency exam as an exit test. The ESL + Undergraduate and the ESL + Graduate groups were made up of students taking at least one ESL class and one academic course, working with their native peers in mainstream classes during a regular semester. In addition, they also took the proficiency exam in order to exit the ESL program. In terms of gender and L1, there were slightly more males than females, and major L1 groups were Arabic and Chinese (see Table 1).

TABLE 1

Frequency of Participants' Demographic Information (2003 to 2008)

		N	%
Gender	Male	1831	61.0
	Female	1170	39.0
Major L1 Group	Arabic	821	27.4
	Chinese	678	22.6
	French	112	3.7
	Japanese	270	9.0
	Korean	413	13.8
	Spanish	135	4.5
	Others[1]	572	19.0
ESL program	ESL-only[2]	707	23.6
	ESL + U[3]	1937	64.5
	ESL + G[4]	357	11.9

[1] More than 60 L1 Groups (e.g., Bulgarian, Cantonese, Farsi, German, Greek, etc.)

[2] ESL-only = a group taking only ESL classes

[3] ESL + U = a group taking both ESL and undergraduate classes

[4] ESL + G = a group taking both ESL and graduate classes

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2. Instrument

The English proficiency test of the ESL program was the main instrument for measuring the students' English proficiency. The test consisted of four sub-categories: Listening, Reading, Writing, and Grammar. The reading comprehension test consisted of 50 multiple-choice questions based on five reading passages. The passages average about 225 words each. 50 minutes were given to complete the reading test. The listening comprehension test had three dialogues and two short lectures consisting of 61 questions and was delivered by audiocassette. In the listening comprehension test, the students were required to respond with short written answers to the questions. Complete sentences for the short written answers were not necessary, and, furthermore, it was not a spelling or grammar test. 35 minutes were taken to complete the listening test. In the writing test, the students were required to make an essay of between 350 and 500 words on a given topic like the TOEFL writing test. The students were given 30 minutes to complete the essay. The grammar test had 40 items for guided paraphrase. Each item had a paired sentence consisting of an A sentence and a B sentence. The B sentence had one or more blank spaces and the students were required to fill in the blanks to make the two sentences be grammatically equal. 30 minutes were given to complete the grammar test. Listening and Reading had 200 point maximum scores, and Writing and Grammar had 100 point maximum scores. It was administered twice, at the beginning and at the end of a semester, to the students who want to pursue full-time academic studies at the University. Testing of all participants was completed within a 2 hour and 40 minute block of time.

3. Data Analysis and Design

The data were collected from the participants who took the English proficiency test from 2003 to 2008. The dependent variables for this study are four English proficiency test scores and the independent variables are 'ESL program' (three levels: ESL-only, ESL + Under, ESL + Graduate), gender, and L1 (six levels: Arabic, Chinese, French, Japanese, Korean, Spanish and Others). This analysis includes the pretest scores of the English proficiency test as a covariate to determine how much the independent variables can explain the dependent variables after controlling the covariate. As major statistical procedures, a one-way multivariate analysis of covariance (MANCOVA) and a one-way analysis of covariance (ANCOVA) were conducted to measure mean differences across the three groups: 1) ESL-only, 2) ESL + Under, and 3) ESL + Graduate, at the alpha level, .05.

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IV. RESULTS

Table 2 presents the overall descriptive statistics (e.g., mean and standard deviation) for each test (i.e., pre & post) for the specific domain knowledge targeted: listening, reading, writing, and grammar respectively. As the ESL learners received the intensive ESL program designed to help in their full-academic studies, all domain knowledge skills significantly increased after the ESL program intervention as indicated in Table 2. There were a number of students who did not take the post-test at the end of the semester after taking the pre-test at the beginning of the semester. Thus, the number of participants in the pre-test was not equal to the number of participants in the post-test.

TABLE 2
Overall Mean Scores in Pre- and Post-tests

		N	Mean	SD
Pre-test	Listening	2773	131.87	30.06
	Reading	2855	120.62	35.17
	Writing	2873	63.38	14.91
	Grammar	2782	58.76	19.06
Post-test	Listening	1976	139.15	25.97
	Reading	2031	126.11	32.68
	Writing	2032	67.97	10.90
	Grammar	2026	63.44	18.76

Q1: What are the characteristics of ESL learners' language proficiency in higher education based on the 2003-2008 data?

In order to better understand the effectiveness of the ESL intervention program on the ESL learners' cognitive/academic language proficiency, four paired-samples *t* tests were conducted to measure whether the mean difference between the scores on the two pre-post tests was significantly different from zero. As shown in Table 3, each test was statistically significant. The effect size, Cohen's *d* (1988) of all domain knowledge skills was large at .794 (Listening), .789 (Reading), 1.036 (Writing), and .930 (Grammar) respectively.

TABLE 3
Paired-samples *t* test

		MD	SD	*d*(E.S.)	*t*	df	Sig.
Post-test – Pre-test	Listening	15.25	19.21	.794	34.85	1926	.001**
	Reading	16.87	21.38	.789	35.35	2005	.001**
	Writing	8.24	7.95	1.036	46.74	2031	.001**
	Grammar	10.69	11.49	.930	41.39	1977	.001**

* $p < .05$, ** $p < .01$

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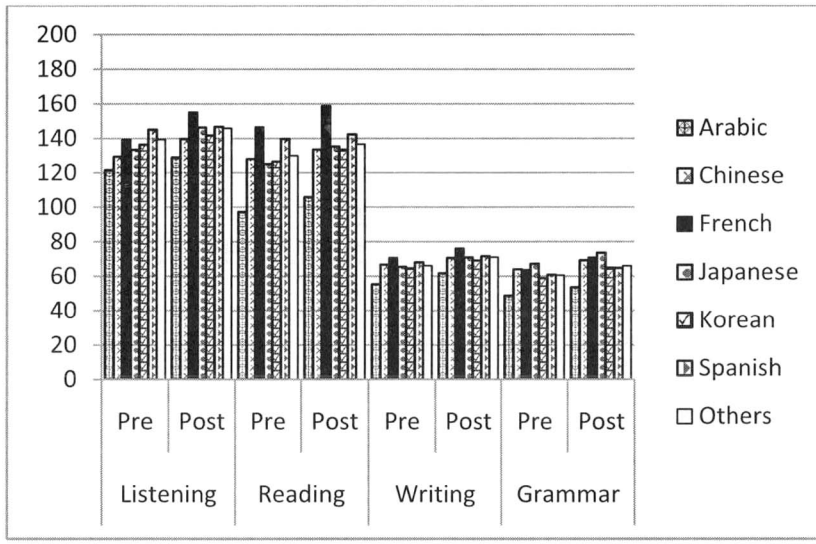
The results indicated that all post-test score means were significantly greater than the pre-test ones. That is, the ESL intervention program was significantly effective to improve cognitive/academic language proficiency across all domain knowledge skills: listening, reading, writing, and grammar.

FIGURE 1



Graph 1 indicates the major L1 groups' levels before and after the ESL intervention program. Arabic students' means of all four language skills were lowest while French students' means were highest on the three language skills except Grammar as shown in Table 4. The French students' better performance on language proficiency tests can be attributed to those characteristics of French which are similar to English. Among the East Asian language students (i.e., Chinese, Japanese, Korean), the Japanese students outperformed the Chinese and Korean students in all four sub-skills. A one-way MANCOVA was conducted to determine if there were statistically significant differences among the three groups. Post-test scores of the four sub-skills were the dependent variables, L1 was the independent variable, and Pre-test scores of the four sub-skills were covariates. Significant differences were found among the three L1 groups on the dependent measures, Wilks's $\Lambda = .963$, $F\ (8, 1508) = 3.566$, $p < .01$, $\eta^2 = .019$. One-way ANCOVAs on each dependent variable were conducted as follow-up tests to the MANCOVA. Using the Bonferroni method, each ANCOVA was tested at the .0125 (= .05/4) level. The ANCOVA on the post-grammar test scores was significant, $F\ (2, 757) = 9.368$, $p < .01$, $\eta^2 = .024$, but the ANCOVAs on the rest of the post-test scores were not statistically significant. Since the ANCOVA on the post-Grammar test was significant, pairwise comparisons as follow-up

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tests to the ANCOVA were conducted. Using the Bonferroni method, each pairwise comparison was tested at the .004 (= .0125/3) level. According to the pair-wise comparisons, a difference on the post-Grammar scores between the Japanese and Chinese students and between the Japanese and Korean students was significant respectively.

TABLE 4

Mean Scores in Pre- and Post-tests by Major L1 group

		Listening		Reading		Writing		Grammar	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
Arabic	Mean	121.49	128.99	97.29	105.82	55.31	61.74	48.71	53.57
	N	763	615	796	671	784	640	742	637
	SD	33.58	28.22	35.76	32.30	17.79	12.89	21.71	20.29
French	Mean	139.35	155.16	146.64	158.76	70.75	76.24	63.66	70.91
	N	109	75	112	66	110	70	110	70
	SD	23.11	17.70	23.16	16.98	6.49	4.39	14.09	11.69
Chinese	Mean	129.44	139.60	128.05	133.52	66.65	70.61	63.98	69.19
	N	636	468	640	448	657	467	635	465
	SD	28.26	24.26	31.082	28.13	12.75	7.76	16.21	15.94
Japanese	Mean	133.39	146.34	125.12	135.30	65.46	70.87	67.17	73.57
	N	248	170	260	170	257	160	252	160
	SD	25.46	19.61	30.38	26.57	12.99	7.93	15.78	14.85
Korean	Mean	136.37	141.74	126.58	133.47	64.52	69.06	58.83	64.87
	N	385	274	396	276	403	286	395	286
	SD	25.89	23.30	28.29	25.76	11.90	8.09	15.74	15.03
Spanish	Mean	145.06	146.68	139.64	142.37	67.98	71.58	60.84	64.79
	N	126	60	132	63	136	66	134	66
	SD	25.37	19.84	26.97	21.55	12.23	7.29	16.50	14.05
Others	Mean	139.37	145.94	129.99	136.65	66.11	71.00	60.51	66.06
	N	551	343	563	365	570	371	558	370
	SD	29.84	25.01	31.99	30.94	12.78	10.27	17.77	17.98

In terms of gender in Table 5, on the one hand, a one-way MANOVA was conducted to determine the gender difference on the overall cognitive/academic language proficiency of the four dependent variables: Listening, Reading, Writing, and Grammar post-test scores. Significant differences were found on the dependent measures, Wilks's $\Lambda = .937$, F (4, 1806) = 30.22, $p < .01$, $\eta^2 = .063$.

TABLE 5

Mean Scores in Post-tests by Gender

		Post-test			
		Listening	Reading	Writing	Grammar
Female	Mean	141.41	135.05	70.12	66.48
	N	650	650	650	650
	SD	24.18	27.60	8.37	16.54
Male	Mean	136.04	119.66	65.65	59.82
	N	1161	1161	1161	1161
	SD	26.96	34.94	11.92	19.85

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One-way ANOVAs on each dependent variable were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .0125 level. The ANOVA on the post-Listening test scores was significant, F (1, 1809) = 17.75, $p < .01$, $\eta^2 = .01$. The ANOVA on the post-Reading test score was significant, F (1, 1809) = 52.74, $p < .01$, $\eta^2 = .028$. The ANOVA on the post-Writing test score was significant, F (1, 1809) = 71.82, $p < .01$, $\eta^2 = .038$. The ANOVA on the post-Grammar test score was significant, F (1, 1809) = 93.47, $p < .01$, $\eta^2 = .049$. These results indicate that the female ESL students outperformed male ESL students in all four sub-skill areas.

Q2: Is there a difference between an ESL+ academic course taking group and an ESL-Only group?

For overall cognitive/academic language proficiency progress, all three groups made significant progress compared to pre-test scores, which means that the ESL program was effective across the three groups; ESL-only, ESL + Under, and ESL + Graduate as shown in Table 6. These results indicate that all post-test score means were significantly greater than those of the pre-tests; that is, the ESL intervention program was effective for all three groups in improving cognitive/academic language proficiency across all domain knowledge skills: listening, reading, writing, and grammar.

The two academic groups taking academic courses with ESL especially outperformed the ESL-only group in the four language skills even though the overall progress of the ESL-only group's language proficiency was more significant. Furthermore, the ESL + Graduate group within the academic course-taking groups also outperformed the ESL + Under group in the four language skills.

TABLE 6

Mean Scores in Pre and Post-tests by Group

		Listening		Reading		Writing		Grammar	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
ESL	Mean	119.8	130.94	109.95	120.82	57.99	65.53	52.55	58.77
	N	667	534	686	553	701	559	670	556
	SD	33.89	29.88	40.08	37.15	16.59	12.90	21.32	21.27
ESL + U	Mean	135.4	141.95	121.04	126.12	64.13	68.47	59.79	64.56
	N	1794	1267	1869	1327	1846	1320	1812	1319
	SD	28.46	23.69	32.33	30.19	13.69	10.06	17.84	17.40
ESL + G	Mean	137.5	143.99	142.37	145.39	70.70	72.63	66.39	70.85
	N	312	175	300	151	326	153	300	151
	SD	22.60	23.51	29.24	29.04	13.72	7.45	16.88	16.38

As indicated in Table 7, each test for the ESL-only students was statistically significant: for Listening, t (512) = 18.88, $p < .01$; for Reading, t (541) = 18.69, $p < .01$; for Writing, t (558) = 27.17, $p < .01$; and for Grammar, t (530) = 21.27, $p < .01$. For the ESL + Under

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students, each test was statistically significant: for Listening, t (1241) = 26.62, $p < .01$; for Reading, t (1313) = 27.78, $p < .01$; for Writing, t (1319) = 35.51, $p < .01$; and for Grammar, t (1295) = 32.48, $p < .01$ respectively. The results for the ESL + Graduate students were also statistically significant: for Listening, t (171) = 12.81, $p < .01$; for Reading, t (149) = 11.75, $p < .01$; for Writing, t (152) = 16.28, $p < .01$; and for Grammar, t (150) = 15.57, $p < .01$.

Interestingly enough, the effect size of reading was the smallest among the four areas while the effect size of writing was largest. That is, the ESL program was most effective in increasing the writing skills of the students while the ESL program was least effective in increasing the reading skills of the students.

TABLE 7

Paired-samples *t* Tests

			MD	SD	*d*(E.S.)	*t*	df	Sig.
Post-test – Pre-test	ESL-Only	Listening	16.39	19.67	0.83	18.88	512	.001**
		Reading	17.70	22.05	0.80	18.69	541	.001**
		Writing	9.62	8.37	1.15	27.17	558	.001**
		Grammar	11.08	12.00	0.92	21.27	530	.001**
	ESL + U	Listening	14.49	19.19	0.76	26.62	1241	.001**
		Reading	6.32	21.29	0.30	27.78	1313	.001**
		Writing	7.74	7.92	0.98	35.51	1319	.001**
		Grammar	10.29	11.40	0.90	32.48	1295	.001**
	ESL + G	Listening	17.30	17.71	0.98	12.81	171	.001**
		Reading	18.75	19.54	0.96	11.75	149	.001**
		Writing	7.47	5.67	1.32	16.28	152	.001**
		Grammar	12.81	10.11	1.27	15.57	150	.001**

* $p < .05$, ** $p < .01$

Graph 2 indicates how consistently all three groups progressed after the ESL program intervention.

In order to meet homogeneity among the three groups 1) ESL-only, 2) ESL + Grad, and 3) ESL + Under, students who scored between 156 and 165 on the pre-test Listening and Reading scores and between 75 and 84 on the pre-test Writing and Grammar were selected. It was assumed that the students in these ranges were homogenous before taking either ESL courses or academic classes. The assumption was statistically verified: for the pre-test Listening scores, Leven's test was not significant, p =.126: the mean scores were 160.35, 160.38, and 160.28 for ESL-Only, ESL + Grad, and ESL + Under respectively. The ESL program factor was also not significant, F (2, 464) = .041, p = .960. For the pre-test Reading scores, Leven's test was not significant, p = .734: mean scores were 160.53, 160.59, and 159.74 for ESL-only, ESL + Grad, and ESL + Under respectively. The ESL

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program factor was also not significant: F (2, 267) = 2.460, p = .087. For the pre-test Grammar scores, Leven's test was not significant, p = .711: mean scores were 79.26, 79.21, and 78.76 for ESL-only, ESL + Grad, and ESL + Under respectively. The ESL program factor was also not significant: F (2, 464) = 1.627, p = .198. For the pre-test Writing scores, Leven's test was not significant, p = .061: mean scores were 77.12, 76.72, and 76.59 for ESL-Only, ESL + Grad, and ESL + Under respectively. The ESL program factor was again not significant either, F (2, 424) = 2.087, p = .125. In other words, each group within the selected cases was statistically homogenous in terms of Listening, Reading, Writing, and Grammar proficiency.

FIGURE 2

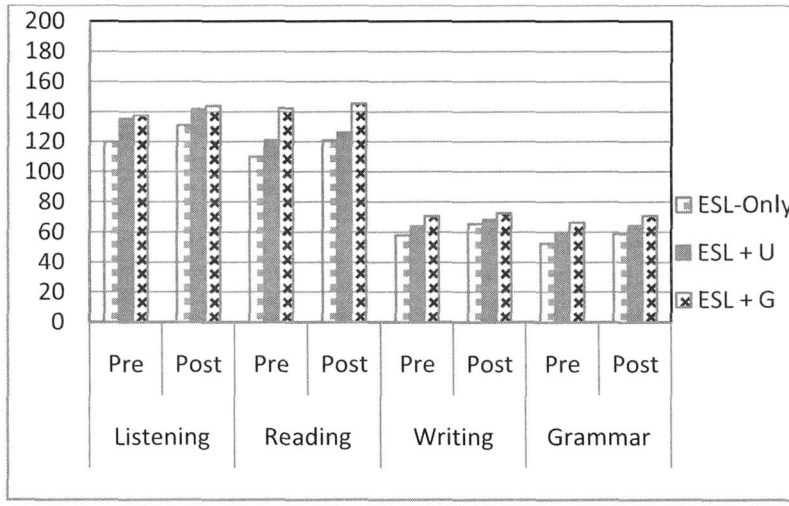

TABLE 8

Mean Scores in Pre- & Post-tests of Selected Students

		Listening		Reading		Writing		Grammar	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
ESL	Mean	160.35	161.17	160.53	163.45	77.12	79.08	79.26	80.72
	N	57	24	60	33	75	36	74	36
	SD	2.48	12.59	3.09	16.25	2.27	5.41	2.75	8.63
ESL + U	Mean	160.28	158.62	159.74	159.89	76.59	77.19	78.76	79.65
	N	354	166	152	19	271	86	318	140
	SD	2.77	10.56	2.94	3.28	1.85	2.48	2.60	9.30
ESL + G	Mean	160.38	159.63	160.59	158.77	76.72	77.85	79.21	84.20
	N	56	8	58	13	81	13	75	15
	SD	2.63	2.33	3.06	5.86	2.22	2.61	2.67	6.82

Since the number of selected cases for each sub-skill test was not the same, a one-way

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ANCOVA for each sub-skill test was conducted; that is, four different ANCOVAs were conducted. The independent variable, 'ESL program' including three levels such as ESL-only, ESL + Grad, and ESL + Under was same for the four ANCOVAs. The dependent variable was the post-test scores of Listening, Reading, Writing, or Grammar for each ANCOVA respectively. The pre-test score of each sub-skill test was a covariate. The results of the four different ANCOVAs were as follows. For Listening, it was not significant, F (2, 194) = .666, p = .515, partial η^2 = .007. For Reading, it was not significant, F (2, 61) = .914, p = .407, partial η^2 = .029. For Grammar, it was not significant, F (2, 187) = 1.879, p = .156, partial η^2 = .020. For Writing, it was not significant, F (2, 131) = 2.401, p = .095, partial η^2 = .035. These results indicate that there was no statistically significant difference among the three groups of the selected cases in the post-test scores for Listening, Reading, Writing, and Grammar.

V. DISCUSSION

The primary purpose of this study was to report on the overall academic English proficiency of university ESL students in an ESL program from 2003 to 2008 at a university in the U.S. One of the findings was that the ESL program for the university ESL learners pursuing academic study at the university was effective in enhancing the ESL learners four sub-skill areas: listening, reading, writing, and grammar. In particular, the ESL program was most effective in enhancing the students' writing proficiency while it was the least effective in enhancing the students' reading proficiency; it is assumed that they could have reached a ceiling effect based on the reading-focused curriculum. To put it in another way, the ESL program made critical progress in the university ESL learners' cognitive/academic language proficiency.

On the one hand, the French students showed the highest proficiency on the three sub-skill areas except for Grammar while the Arabic students showed the lowest proficiency in the four sub-skill areas. The Japanese students showed the highest proficiency in Grammar. Among the three East Asian language students, the Japanese students outperformed the Chinese and Korean students in all four sub-skill areas but a statistically significant difference was found in Grammar only. In terms of a gender difference, the female ESL students outperformed male ESL students in all four sub-skill areas.

Meanwhile, for a further analysis, this study categorized the ESL learners into three different groups (i.e., an ESL-only group, an ESL + Undergraduate academic course group, and an ESL + Graduate academic course group) in order to determine how the effectiveness of the ESL program differs for each group. It was assumed that the ESL-only group would outperform the academic course groups because the former could fully focus

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on the ESL program which was designed to develop the ESL learners' academic English proficiency whereas the latter would spend their time and/or efforts in their academic course work which was designed not for developing academic English proficiency but for academic content knowledge.

Interestingly, however, there was no significant difference in academic English proficiency test scores among the three groups; that is, after either a complete ESL program intervention only or both a partial ESL program intervention and academic courses, the three groups' academic English proficiency was increased to almost same degree. One plausible reason for this result is that the academic course groups might be exposed to more authentic language input in their academic courses which might compensate for what the ESL program failed to provide. This result implies that the ESL learners might be able to develop their academic English proficiency even though they receive a partial ESL program intervention if there were additional support. Furthermore, the academic course groups might have acquired academic content knowledge along with the same degree of academic English proficiency as the ESL-only groups. To put it in another way, the academic course groups had a chance to develop both their academic English proficiency and their academic content knowledge at the same time. This result is similar to previous research reported by Andrade (2001). According to Andrade, Brigham Young University-Hawaii (BYUH) opened general content courses to advanced-level ESL students, and they succeeded in both the ESL and content courses.

Given that ESL learners' language proficiency is less than the minimum competency expected, learning content knowledge within an ESL program might be an invaluable educational resource for self-motivation and self-efficacy as well as uninterrupted cognitive/academic development (Chamot & O'malley, 1987). It would also be more time-efficient for ESL learners who need to keep up with their academic development. According to Lewelling's (1991) notion of Uninterrupted Academic Development (UAD), isolated language instruction appears to be relatively ineffective. He emphasized that ESL learners' academic development should not be limited when they are learning English. Additionally, instruction focusing on language skills for 2-3 years would leave them 2-3 years behind their English-speaking peers in school subjects. Accordingly, for pedagogical implications, it is suggested that an intensive ESL program in higher education consider the balance of both development of cognitive/academic language proficiency and content knowledge in order to meet current university ESL learners' needs.

As stated already, this study was conducted with data from ESL learners' English proficiency test scores collected by the university ESL program in the U.S., which means that this study was not experimental research. Thus, interpretation on the effectiveness of the ESL program should be cautious. In addition, the English proficiency exam that the ESL program administered to measure the ESL learners' academic English proficiency was

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not a widely accepted standardized test like the TOEFL; and therefore, a validity issue for the tests was another critical limitation to this study. Accordingly, it is hoped that there will be follow-up research employing a valid experimental design and using a well-developed measurement in the future, which will verify the findings of this study.

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