Academic Performance of Business Students in Investment Class : A Comparative Study between English-medium Lecture and Korean-medium Lecture

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Abstract

In recent years, there has been an argument that the academic performance of college students taught in English might be lower than those exposed in Korean under ceteris paribus environment. This paper examined the validity of this argument against the effectiveness of teaching-in-English, using student data from investment courses at a leading national university in Busan. Of a total of 165 students, 77 students took the teaching-in-Korean class (cohort A), whereas 88 students registered for the teaching-in-English class (cohort B). The findings did not support the popular argument. There was no significant difference in academic performance between student cohort A and student cohort B.

Key words : English-medium, Korean-medium, TOEIC®, Lingua franca

Ⅰ. Introduction

Over the years, it has been argued among academic circles that academic performance of students taking teaching-in-English class might be lower than those enrolling in teaching-in-Korean class. The underlying assumption behind this argument is that English is an inferior means of teaching between Korean professors and Korean students. Although this is a very interesting and popular argument, no study has yet been published to clarify it. This paper seeks to contribute an understanding of this argument.

The objective of this paper is to examine validity of the popular argument that the academic performance of students taking a class in English would be lower than those taking the same course in Korean under ceteris paribus environment.

The remainder of the paper is organized as follows. Section II discusses the literature review. Section III describes the methods including sample, research hypothesis, and variable measurement. Section IV presents the results. Finally, a summary of the paper and suggestions for future studies are

given in Section V.

Ⅱ. Literature Review

1. English as the Lingua Franca

Language is defined as a system of communication using sounds put together according to a set of rules. Some 5,000 languages exist, not counting dialects (Haviland, 1990).

More individuals speak Mandarin than any other language worldwide, with English the second most common. English, however, is the official language of more countries than any other language, with French second. Also, English is the most common business language worldwide. It is often the lingua franca—a language used for communication that is not native to any of the speakers (Skipper, 1998, p. 385).

2. Performance

Kim (2013) studied the effects of service personal performance in the entertainment market. . Al-Twaijry (2010) looked into student academic performance in undergraduate management and accounting courses. Yousef (2011) investigated the academic performance of business students in quantitative courses at the UAE University. Brown (2002) examined the replacing possibility of classrooms by web courses in principles of microeconomics.

3. Language Skills and Academic Performance

Wilson, et al. (2004) reported positive relationship between the Test of English for International Communication (TOEIC®) scores and academic and employment contexts in Thailand.

They also reported TOEIC scores are relatively closely related to scores on the Test of English as a Foreign Language (TOEFL®).

Ⅲ. Methods

1. Sample

The research sample consists of 165 undergraduate students enrolled in Investment class for spring semesters of 2012 and 2013 at business school in a leading national university in Busan. All sections were taught by the corresponding author, an experienced instructor in English-only class since 1988. Common syllabus, textbook (Bodie, et al. 2010), and homework assignments were used for both sections. All students in the sample were required to submit a TOEIC score. Korean was the means of communication for student cohort A, whereas English was the tool of teaching for student cohort B.

Descriptive statistics of the sample by cohort are presented in Table 1. The student cohort B (English-medium lecture) had significantly higher means of total scores, TOEIC scores and grade point average than the student cohort A (Korean-medium lecture). In addition, the percentage of domestic students in the cohort B was higher than that of cohort A.

2. Research hypothesis

The research hypothesis of this paper is that the academic performance of students enrolled in English-medium lecture would be lower than those enrolled in Korean-medium lecture under ceteris paribus assumption.

\<Table 1\> Descriptive Statistics of Sample Data

Variable	Cohort A*				Cohort B**			
	Mean	SD	n	%	Mean	SD	n	%
TOTAL	59.31	23.78	77		69.11	23.04	88	
Min	0.00				0.00			
Max	99.00				100.00			
ATTEN	8.90	1.95	77		9.43	1.51	88	
Min	2.00				0.00			
Max	10.00				10.00			
AGE	23.23	1.95	77		23.53	1.89	88	
Min	20.00				20.00			
Max	28.00				29.00			
TOEIC	580.26	164.18	77		677.22	135.28		
Min	215.00				310.00			
Max	905.00				960.00			
GPA	3.20	0.62	77		3.35	0.50		
Min	0.43				2.13			
Max	4.43				4.10			
GENDER	0.57	0.50			0.58	0.50		
Male			44	57.10			51	58.00
Female			33	42.90			37	42.00
STATUS	0.79	0.41			0.93	0.25		
Domestic			61	79.20			82	93.20
International			16	20.80			6	6.80
ACFI	0.43	0.50			0.41	0.49		
Yes			33	42.90			36	40.90
No			44	57.10			52	59.10
MGT	0.49	0.50			0.55	0.50		
Yes			38	49.40			48	54.50
No			39	50.60			40	45.50
OTHER	0.08	0.27			0.03	0.18		
Yes			6	7.80			4	3.40
No			71	92.20			84	96.60

* Cohort A: Student group taking investment class in Korean.

** Cohort B: Student group taking investment class in English.

3. Variable measurement

To test the research hypothesis, this study employs eight factors shown up in existing literature as the determinants of academic performance of undergraduate students. Definitions of these variables are provided in Table 2.

Total score (TOTAL) is used as the dependent variable following Brown and Liedholm (2002). Language proficiency (LANG), especially English language skills is identified as one of the most important factors that affect students' performance (Krausz, et al. 2005; Wilson, et al. 2004; Yousef, 2011). Class attendance (ATTEN) is reported to have positive impact on students' academic performance (Devadoss and Foltz, 1996; Harb and El-Shaarawi, 2007). Interestingly, age (AGE) is concluded to show mixed results on students' performance. Yousef (2011) found negative

<Table 2> Definitions of Variables

Type	Symbol	Definition
Dependent variable	TOTAL	Total score of students on a scale of 0-100
Explanatory variables	LANG	Language used in teaching (1 = Korean, 0 = English)
	ATTEN	Attendance on a scale of 0-10
	AGE	Age
	TOEIC	TOEIC score on a scale of 0-990
	GPA	Grade point average measured at the time of taking investment course
	GENDER	Gender (1 = male, 0 = female)
	STATUS	Students' status (1 = domestic student, 0 = international student)
	ACFI	Accounting and finance major (1 = accounting and finance major, 0 = non-AC and non-FI major)
	MGT	Management major (1 = management major, 0 = non-management major)
	OTHER	Other major (1 = other major, 0 = non-other major)

relationship between age and performance, while Nonis and Hudson (2010) stated differently. Students' TOEIC scores are positively associated to their academic performance (Wilson, et al. 2004; Koys, 2010). Grade point average (GPA) was revealed as the strongest predictive factor of students' performance (Koys, 2010; Bielinska-Kwapisz, et al. 2012).

Previous studies documented mixed results between gender (GENDER) and students' performance. Yousef (2011) found that female students outperform male students, whereas Ball (2012) and Bielinska-Kwapisz and Brown (2013) reported opposite result. Students' status (STATUS) is reported to have significant relationship with academic performance (Yousef, 2011; Nonis and Hudson, 2010). Students' majors (ACFI, MGT, OTHER) are also reported to hold meaningful association with their performances (Yousef, 2011; Koys, 2010; Bielinska-Kwapisz and Brown, 2013).

Tangdhanakanond, et al. (2011) investigated perceptions of school psychological services from Korean college students' perspective with a focus on student gender and status.

Ⅳ. Results

Pearson correlation matrix for regression variables is presented in Table 3. Attendance (ATTEN), TOEIC score (TOEIC), grade point average (GPA), and student status (STATUS) are significantly and positively correlated with academic performance of students (TOTAL). Language used in class (LANG) is significantly and negatively correlated with academic performance. Age (AGE) and accounting and finance major (ACFI) are positively but insignificantly associated with students' performance. Gender (GENDER), management major (MGT), and other majors (OTHER) are negatively but insignificantly correlated with students' performance.

\<Table 3\> Pearson Correlation Matrix for Regression Variables

	1	2	3	4	5	6	7	8	9	10	11
1	1	-.206**	.504**	.134	.496**	.493**	-.050	.529**	.085	-.082	-.031
2		1	-.157*	-.078	-.310**	-.132	-.008	-.205**	.020	-.052	.096
3			1	-.088	.182*	.341**	-.118	.183*	.119	-.098	-.040
4				1	.049	.113	.517**	.155*	-.303**	.299**	-.022
5					1	.443**	-.200*	.602**	.016	-.061	.115
6						1	-.092	.535**	-.013	-.072	.172*
7							1	-.084	-.192*	.208**	-.064
8								1	.007	-.055	.094
9									1	-.885**	-.204**
10										1	-.251**
11											1

Note : 1 TOTAL, 2 LANG, 3 ATTEN, 4 AGE, 5 TOEIC, 6 GPA, 7 GENDER, 8 STATUS, 9 ACFI, 10 MGT,
11 OTHER.
*p<.05, **p<.01.

Following Youn (2012), both the Durbin-Watson test and examination of variance inflation factor (VIF) were conducted to detect presence of potential multicollinearity between the independent variables. No evidence of serious multicollinearity problem was found.

The research hypothesis was tested by the following ordinary least squares (OLS) regression. The predictor variable was LANG. The control variables were ATTEN, AGE, TOEIC, GPA, GENDER, STATUS, and three majors (ACFI, MGT, OTHER).

$$TOTAL = \beta_0 + \beta_1 ATTEN + \beta_2 AGE + \beta_3 TOEIC$$
$$+ \beta_4 GPA + \beta_5 LANG + \beta_6 GENDER + \beta_7 STATUS$$
$$+ \beta_8 ACFI + \beta_9 MGT + \beta_{10} OTHER + \epsilon$$

Results of the regression analyses are reported in Table 4. At the .01 level of significance, the F-value of 16.891 and its corresponding p-value of .000 indicate that the relationship is significant.

Although the language used in class (LANG) is positively related to the academic performance of students (TOTAL), it is not significant. Accordingly, it can be concluded that there is no significant difference of students' academic performance between Korean-only class and English-only class.

Class attendance (ATT), TOEIC score, grade point average (GPA), and student status (STATUS) are positively related to academic performance, and they are all significant. This indicates if Korean students attend class more often, obtain higher TOEIC score, and have higher GPA, they would be more likely to outperform other students in academic performances.

Other major (OTHER) is negatively and significantly related to academic performance. This implies that, in academic performances, students from other majors such as applied mathematics, marine biology, economics, international regions,

<Table 4> Regression Results (dependent variable: TOTAL)

Independent Variables	Coefficients	t	p
Constant	-49.181	-1.787	.076*
LANG	.633	.222	.825
ATT	5.127	6.182	.000***
AGE	1.304	1.505	.134
TOEIC	.037	3.207	.002***
GPA	3.151	1.880	.062*
GENDER	1.108	.340	.734
STATUS	16.534	3.113	.002***
ACFI	-19.625	-1.132	.259
MGT	-22.650	-1.314	.191
OTHER	-30.253	-1.663	.098*
Adjusted R^2	.492		
F	16.891		.000***

Note : *p<.10, **p<.05, ***p<.01.

English language and literature, North America, and tourism management are more likely to underperform other students. While age and gender variables (AGE and GENDER) are positively and insignificantly associated with academic performance, they are not significant. Interestingly, both accounting and finance (ACFI), and management (MGT) majors are negatively related to the academic performance, but they are not significant. This suggests that the academic performance of students from business school would be more or less the same regardless of their majors.

Following the suggestion of a referee, we ran the same regression model again after eliminating the students' data with lower than GPA 2.0 in Korean-only lecture. The number of deleted observations was two. Although t-statistics and p-values revealed small changes, we could still reach the same conclusion as in the previous regression analysis with full sample.

Ⅴ. Conclusion

In recent years, English as the lingua franca has become an integral part of teaching and learning in many Korean universities due to globalization. This trend is expected to continue, partly because Korean universities are increasingly forced to offer more courses taught in English to improve their internationalization indices and compete for a bigger pie of financial support from The Ministry of Education.

However, there has been a popular argument that the academic performance of college students taught in English might be lower than those exposed in Korean under ceteris paribus environment. The underlying assumption behind the argument is that English is an inferior means of communication between Korean professors and Korean students in class.

This paper examined the validity of that

argument against the effectiveness of English-only class. The data were collected from investment courses at business school in a leading national university in Busan. Of a total of 165 students, 77 students took the teaching-in-Korean class (cohort A), whereas 88 students registered for the teaching-in-English class (cohort B). Academic performance of two cohorts was measured through two in-class exams, two homeworks, and class attendance.

From the results, we could not find significant differences in the academic performance of business students enrolled in English-medium class and in Korean-medium class under ceteris paribus assumption. Our finding is consistent with Hwang and Ahn (2011).

To our knowledge, this paper is the first attempt to compare the academic performance of business students between English-medium class and Korean-medium class. However, we only considers students' acquisition of content knowledge in the analysis. In order to overcome this limitation, we need to expand our study to examine the improvement of students' English capability before and after taking the English-medium lecture. Also we need to compare students' satisfaction between English-medium lecture and Korean-medium lecture.

Finally, perhaps most importantly, the instructors should make linguistic (eg. speaking slowly, clearly, using pauses and redundancy), rhetorical (eg. using markers to emphasize important points), and cultural adjustments (eg. using culturally accessible material) in order to help students increase their comprehension of English-medium lecture (Kim, 2003, p. 16).

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