Analysis of Extracurricular Programs That Affect College Students' Writing and Speaking Skills

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Abstract

Communication skills such as writing and speaking contribute to learners' satisfaction with school life, academic achievement, and improvement of adaptability. In particular, the extracurricular activities experienced during college affect the acquisition of key qualities necessary for social life. The purpose of this study is to identify the extracurricular programs that affect the writing and speaking ability of college students. To confirm the purpose of this study, data were collected through an online survey conducted from April to May 2022 for current students at 4-year E-University located in Gyeonggi-do. The measurement tool is the Korea-National Survey of Student Engagement (K-NSSE). The Undergraduate Education Satisfaction Survey is a diagnostic tool that can obtain objective information on the quality and performance of undergraduate education by diagnosing undergraduate students' learning participation, learner psychology, high-efficiency program participation, and student performance. For the analysis method, frequency analysis and descriptive statistical analysis were performed. In addition, correlation analysis was performed to examine the validity between variables and to confirm multicollinearity. Finally, multiple regression analysis was performed to verify the influence of the non-examination program on the writing and speaking ability of college students. Results showed that the extracurricular program on the writing ability of college students had an influence in the order of learning mentoring, freshman orientation, professor's research project, and learning community activity. Moreover, the extracurricular program that affected the speaking ability of college students had an influence in the order of learning mentoring, professor's research project, freshman orientation, and learning community activity.

Keywords: university, extracurricular programs, writing and speaking skills

1. Introduction

Writing and speaking are basic tools for communication. However, writing and speaking are not the only problems of communication. For human beings to live a happy life, it is necessary to acquire professional skills and to improve writing and speaking skills, which are tools of communication. Seoul National University has been operating the ‘Writing Class’ since 2003 to provide text guidance to students. In most universities, writing is a compulsory liberal arts subject. This phenomenon was already being practiced by prestigious universities before the recent mass media pointed out the lack of literacy among college graduates.

The reason that writing and speaking courses at universities are opened and operated is first to enhance the thinking skills of college students. Second, it is to enhance communication capabilities as a member of society. Third, it is an essential process for becoming a competent professional with literacy skills. As such, to effectively achieve the purpose of opening and operating writing and speaking courses at universities, extracurricular programs are being operated.

In the university curriculum, extracurricular programs refer to all educational activities other than the regular curriculum operated by a credit system. Therefore, universities are developing and operating various extracurricular programs in addition to the regular curriculum through university institution evaluation and accreditation and university financial support projects. The extracurricular programs operated by universities impact learning as much as the regular curriculum. In this regard, there are too many domestic and foreign studies dealing with the effects of

the extracurricular curriculum and the relationship between various variables to be enumerated. Among these, only a few research results directly related to this study are mentioned as follows. Extracurricular educational activities contribute to the overall improvement of communication skills. In particular, Clark et al. (2015) analyzed 14,215 Lancaster University graduates and how their experiences in extracurricular activities had an impact on their first job after graduation. Based on the results, it was found that the extracurricular activities experienced during college had a significant impact on the acquisition of key qualities necessary for the first job. In addition, graduates answered that communication skills, interpersonal skills, confidence and self-awareness were the top three competencies developed through extracurricular activities while attending college.

According to the results of domestic studies, participation in extracurricular activities improves understanding and empathy for oneself and others, mutual understanding and respect, and perception and attitude toward interpersonal relationships. In particular, it was confirmed that communication skills improved as a result of the study on the effect analysis of the liberal arts subjects linked to the extracurricular program. It helped to improve the ability to collect information.

Much research has been conducted on variables related to writing and speaking skills both at home and abroad. Among them, speaking ability was closely related to an individual's personality, psychological factors, external stimuli, content of delivery, presence or absence of training, and ability to use information. There was a correlation with reflective thinking, self-directed learning ability, and comprehensive thinking ability (Kim 2020).

Communication skills such as writing and speaking contribute to learners' school life satisfaction, academic achievement, and improvement of adaptive ability (Palamarchuk, 2021). Team activity, which is based on active verbal interaction between team members, contributes to the improvement of academic achievement. It also contributes to the increase of concentration and immersion in class. In the workplace, the better the communication ability, the better the job performance effect. In addition, the university's open administrative system, active club activities, student interaction, lecture quality, job preparation activities, exchanges with professors, active class participation, cooperative learning experiences, diversity and interaction were reported to have an impact on the development of communication skills. In addition, among all activities outside of class, club activities, volunteer work, group study, sincere class participation, and smooth interaction with professors were found to have a statistically significant positive effect on the development of communication skills of learners.

Among various extracurricular programs, it is necessary to develop and operate highly effective extracurricular programs that have an impact on writing and speaking skills. Therefore, this study intends to analyze which non-specialized program among the extracurricular programs in universities has the most influence on writing and speaking skills. Through the analysis results, we intend to use them as basic data for the input of extracurricular programs in the field of university education.

The research questions for carrying out these research objectives are as follows.

Research Question 1. What is the relationship between college students' writing ability, speaking ability, and extracurricular programs?

Research Question 2. How about the extracurricular programs that affect the writing ability of college students?

Research question 3. How about the extracurricular programs that affect the speaking ability of college students?

2. Method

2.1 Study Subject

This study conducted a full enumeration survey on the effectiveness of extracurricular programs that affect writing and speaking skills for all sophomores attending E university in the fourth year of S city, Gyeonggi-do. The number of students enrolled in University E is 4,157. Excluding the response data with many missing values among the response data, the number of valid sample students used in this study is 1,008. The survey was conducted online for one month from November to December 2022. In addition, to comply with research ethics consent forms from research participants were collected and submitted in electronic file format during online surveys. The general characteristics of the study subjects are presented in Table 1.

Table 1. General Characteristic (N=1008)

Observational variable		Frequency	%
Sex	Male	283	28.3
	Female	723	71.7
high school type	general high school	923	91.6
	specialized high school	12	1.2
	Special purpose high school (foreign language high school, science high school, art high school, etc.)	9	0.9
	Autonomous private and public high schools	47	4.7
	Others (GED Examination, Alternative School, Overseas High School, International School, etc.)	17	1.7
Admission Type	Freshman (Frequently)	704	69.8
	Freshman (on-time)	266	26.4
	Transfer (general, within the capacity)	29	2.9
	Transfer (Undergraduate, outside the quota)	9	0.9
GPA of previous semester	under D+	9	0.9
	C+ ~ C-	94	9.3
	B+ ~ B-	565	56.1
	A+ ~ A-	340	33.7
grade	1	277	27.5
	2	231	22.9
	3	276	27.4
	4	224	22.2
Department	Department of Nursing	25	2.5
	Department of Physical Therapy	14	1.4
	Department of Radiology	54	5.4
	Department of Clinical Pathology	53	5.3
	Department of Optics	104	10.3
	Department of Emergency Rescue	115	11.4
	Department of Dental Hygiene	23	2.3
	premedical	33	3.3
	Department of Medicine	24	2.4
	Department of Beauty and Cosmetic Science	131	13.0
	Big Data Convergence Department	2	0.2
	Department of Health, Environment and Safety	12	1.2
	Department of Sports and Outdoors	34	3.4
	Department of Food Industry and Food Service	69	6.8
	Department of Food and Nutrition	37	3.7
	Department of Children	51	5.1
	Department of Early Childhood Education	81	8.0
	Department of Medical Management	21	2.1
	Department of Medical Engineering	13	1.3
	Department of Medical Public Relations Design	2	0.2
	Medical IT Department	23	2.3
	Funeral Guidance Department	68	6.7
	Department of Addiction Rehabilitation and Welfare	19	1.9

2.2 Research Tool

The measurement tool used in this study is the Korea-National Survey of Student Engagement (K-NSSE). The Undergraduate Education Satisfaction Survey is a diagnostic tool that can obtain objective information on the quality and performance of undergraduate education by diagnosing undergraduate students' learning participation, learner psychology, high-efficiency program participation, and student performance. The NSSE model, which is used to measure the quality and performance of learning experiences in American universities, is validated in the context of Korean universities and is widely used by Korean universities to diagnose student participation. The survey method was conducted as a web-based survey.

The measurement items of the Undergraduate Education Satisfaction Survey used in this study were measured with the items (8 items) on the satisfaction of each high-effective program related to the extracurricular programs operated at the university and each single item measuring the writing and speaking ability of university students. All scales were converted to a full scale of 60 points (1=0 points, 2=20 points, 3=40 points, 4=60 points) to facilitate analysis and comparison between factors. The reliability coefficient (Cronbach's α) of the measuring tool was found to be .887. The composition of the measurement items is shown in Table 2.

Table 2. Composition of Measurement Items

variable	Item	Question Content
independent variable	1	Orientation for freshmen (new student learning center, preparatory college, etc.)
	2	Seminars for new students with credits (university life, study guide, etc.)
	3	Learning community activities with friends (team projects, competitions, dormitory activities, etc.)
	4	Mentors, tutors, school supporters, and student council activities for other students
	5	Learning mentoring, senior or expert tutoring
	6	Community projects as part of the class (community volunteer activities, service learning, etc.)
	7	International exchange program for more than 6 months (exchange students, SAP, joint degree program with overseas universities, etc.)
	8	Professor's research project
	9	Industrial field participation program (internship, industry-university cooperation, practice, clinical experience, etc.)
	10	Integrated learning for upper grades (capstone subjects, portfolio production, graduation exhibitions, etc.)
dependent variable	1	Ability to write clearly and effectively
	2	Ability to speak clearly and effectively

2.3 Data Analysis

To answer the research questions, the data collected were analyzed using IBM SPSS 26 version as follows. First, frequency analysis and descriptive statistical analysis were conducted to examine the mean and standard deviation of the sociodemographic factors and measurement variables of the subjects. Second, to check how consistently the measurement tool was measured, the reliability was checked by calculating the Cronbach' α coefficient value. Third, multiple regression analysis was carried out to confirm which among university non-examination programs university non-examination programs affect writing and speaking abilities and to reveal the most appropriate model to explain the writing and speaking abilities of college students. At this time, as a method of selecting variables to be included in the most suitable regression model, when adding variables one by one, the significance of each variable already included in the model is tested and if not significant, variables are selected using the most used stepwise selection method.

Finally, to increase the predictive power of the multiple regression equation, the correlation between the dependent variable and each independent variable should be high and the correlation between the independent variables should be low. In other words, tolerance and variance inflation factor (VIF) were calculated to check multicollinearity

between independent variables. When both tolerance and VIF are close to 1, it is judged that there is no multicollinearity, and in the case of VIF, it is considered that there is multicollinearity when it is 10 or more. The maximum tolerance limit was .756 and VIF was 1.383, confirming that the correlation between independent variables was not high enough to be a problem. That is, both tolerance and VIF met the basic assumptions for multiple regression analysis.

3. Results

3.1 The Relationship between College Students' Writing Ability, Speaking Ability, and University's Extracurricular Programs

To examine the relationship between college students' writing ability and the university's extracurricular programs, descriptive statistics of each variable were calculated and correlation analysis was performed. The analysis results are presented in Tables 3 and 4.

Table 3. University Students' Writing Ability, Speaking Ability, and Descriptive Statistics of Non-Examination Programs (N=1,008)

		M	SD
DV1	Ability to write clearly and effectively	28.49	16.48
DV2	Ability to speak clearly and effectively	28.35	16.52
IV1	Orientation for freshmen (new student learning center, preparatory college, etc.)	22.36	17.63
IV2	Seminars for new students with credits (university life, study guide, etc.)	18.76	18.52
IV3	Learning community activities with friends (team projects, competitions, dormitory activities, etc.)	23.98	19.35
IV4	Mentors, tutors, school supporters, and student council activities for other students	18.69	20.06
IV5	Learning mentoring, senior or expert tutoring	17.42	18.73
IV6	Community projects as part of the class (community volunteer activities, service learning, etc.)	13.11	17.11
IV7	International exchange program for more than 6 months (exchange students, SAP, joint degree program with overseas universities, etc.)	7.10	14.04
IV8	Professor's research project	10.63	16.59
IV9	Industrial field participation program (internship, industry-university cooperation, practice, clinical experience, etc.)	13.45	18.61
IV10	Integrated learning for upper grades (capstone subjects, portfolio production, graduation exhibitions, etc.)	9.94	15.81

In Table 3, the average value of college students' writing ability was 28.49, and the average of speaking ability was 18.35. Among the extracurricular programs, the learning community activity showed the highest average value at 23.98, and the freshman orientation was high at 22.36. The extracurricular program with the lowest average value had the lowest average of 7.10 for the international exchange program.

As a result of examining the correlation between college students' writing ability and speaking ability and non-examination programs in Table 4, positive correlations were shown between all variables. This suggests that extracurricular programs provided by universities can have a positive effect on the writing and speaking skills of college students.

Table 4. Correlation between Writing Ability and Speaking Ability of College Students and Extracurricular Programs (N=1,008)

	DV1	DV2	IV1	IV2	IV3	IV4	IV5	IV6	IV7	IV8	IV9	IV10
DV1	1											
DV2	.760**	1										
IV1	.255**	.272**	1									
IV2	.261**	.274**	.617**	1								
IV3	.251**	.275**	.409**	.451**	1							
IV4	.251**	.268**	.390**	.396**	.416**	1						
IV5	.285**	.302**	.389**	.419**	.394**	.572**	1					
IV6	.274**	.292**	.426**	.471**	.420**	.469**	.537**	1				
IV7	.240**	.258**	.333**	.414**	.290**	.401**	.449**	.618**	1			
IV8	.247**	.276**	.363**	.413**	.353**	.446**	.419**	.545**	.642**	1		
IV9	.210**	.249**	.397**	.421**	.375**	.365**	.336**	.544**	.517**	.580**	1	
IV10	.247**	.258**	.369**	.421**	.362**	.406**	.437**	.598**	.653**	.620**	.599**	1

3.2 Effect of Extracurricular Programs on Writing and Speaking Skills of College Students

The statistical significance of the model measuring the effect of the extracurricular program on the writing ability of college students was verified. The measurement results are presented in Tables 5 and 6.

Table 5. ANOVA for Regression Model (N=1,008)

	Sum of squares	df	Mean square	F	p
Regression Model	34327.525	4	8581.881	35.958	.000[d]
Residual	239380.411	1003	238.664		
Total	273707.937	1007			
R^2(adj. R^2) = .125(.122)					

In Table 5, since the significance probability for the regression model was .000, which is lower than .05, it was confirmed that the hypothesis that the non-examination program had an effect on the writing ability of college students was established. The R^2 value is the explanatory power of the dependent variable being explained by the independent variable.

Table 6. Multiple Regression Analysis of Writing Ability (N=1,008)

Independent variable	Unstandardized regression coefficients		Standardized regression coefficients	t	p	Collinearity Statistics	
	B	Standard error	β			tolerance	VIF
(constant)	20.469			23.124	0.000		
Learning mentoring, senior or expert tutoring	0.136	0.885	0.155	4.458	0.000	0.723	1.383
Orientation for freshmen	0.106	0.031	0.113	3.305	0.001	0.745	1.342
Learning community activities with friends	0.091	0.032	0.107	3.138	0.002	0.747	1.339
Professor's research project	0.103	0.034	0.104	3.051	0.002	0.756	1.323

As a result of multiple regression analysis on the writing ability of college students, it was confirmed that there was no multicollinearity with tolerance and VIF of 0.1 or more and less than 10, respectively. Next, as a result of checking the significance of each path, learning mentoring, senior or expert tutoring (p<.001), freshman orientation (p<.001), learning community activities (p <.001), the effect of the professor's research project (p<.001) on the writing ability of college students was confirmed to be valid. As a result of checking non-standardized coefficients for significant variables, learning mentoring, senior or expert tutoring (B=.136), freshman orientation (B=.106), professor's research project (B=.103), and learning community activity (B) =.091) were all positive numbers, indicating that the higher the satisfaction with learning mentoring, freshman orientation, professor's research project, and learning community activities, the higher the writing ability of college students.

The regression equation showing the relationship with the non-examination program (independent variable) that explains the writing ability of college students is as follows.

Writing ability of college students = 20.469 + .136 (learning mentoring) + .106 (new student orientation) + .103 (professor's research project) + .091 (learning community activity)

In this equation, when .136, .106, .103, and .091 are standardized for each variable, the regression coefficient of the regression equation is called the standardized regression coefficient. According to the derived regression equation, when learning mentoring, freshman orientation, professor's research project, and learning community activity are 0, the average of college students' writing ability is 20.469, and when other independent variables are the same, an increase in learning mentoring by 1 point It can be predicted that the writing ability increases by .136 points on average, and if the freshman orientation increases by 1 point, the writing ability of college students increases by .106 points on average. It can also be predicted that if the professor's research project increases by 1 point, the writing ability of college students will increase by .103 points on average, and if the learning community activity increases by 1 point, the writing ability of college students will increase by .091 points. Therefore, it can be seen that learning mentoring, freshman orientation, professor's research project, and learning community activities have a positive effect on the writing ability of college students. In other words, to enhance the writing ability of college students, it should be possible to provide learning mentoring, freshman orientation, professor's research project, and learning community activities as an extracurricular program provided by the university.

Tables 7 and 8 show the results of measuring the effects of the extracurricular program on the speaking ability of college students.

Table 7. ANOVA for Regression Model (N=1,008)

	Sum of squares	df	Mean square	F	p
Regression Model	40280.432	4	10070.108	43.056	.000[d]
Residual	234585.837	1003	233.884		
Total	274866.270	1007			
R^2(adj. R^2) = .147(.143)					

In Table 7, since the significance probability for the regression model was .000, which is lower than .05, it was confirmed that the hypothesis that the non-examination program had an effect on the speaking ability of college students was established. The R^2 value is the explanatory power of the dependent variable being explained by the independent variable.

As a result of multiple regression analysis of university students' speaking ability, it was confirmed that there was no multicollinearity with tolerance and VIF of 0.1 or more and less than 10, respectively. Next, as a result of checking the significance of each path, learning mentoring, senior or expert tutoring (p<.001), freshman orientation (p<.001), learning community activities (p <.001), the effect of the professor's research project (p<.001) on the speaking ability of college students was confirmed to be valid. As a result of checking the non-standardized coefficients for significant variables, learning mentoring, senior or expert tutoring (B=.136), professor's research project (B=.124), freshman orientation (B=.108), and learning community activity (B) =.104) in the order of all positive numbers, indicating that the higher the satisfaction of learning mentoring, professor's research project, freshman orientation, and learning community activities, the higher the speaking ability of college students.

Table 8. Multiple Regression Analysis of Speaking Ability (N=1,008)

Independent variable	Unstandardized regression coefficients		Standardized regression coefficients	t	p	Collinearity Statistics	
	B	Standard error	β			tolerance	VIF
(constant)	19.711	0.876		23.124	0.000		
Learning mentoring, senior or expert tutoring	0.138	0.030	0.157	4.458	0.000	0.723	1.383
Learning community activities with friends	0.104	0.029	0.121	3.305	0.000	0.747	1.339
Professor's research project	0.124	0.033	0.1025	3.138	0.000	0.756	1.323
Orientation for freshmen	0.108	0.032	0.116	3.051	0.001	0.745	1.342

The regression equation showing the relationship with the non-examination program (independent variable) explaining the speaking ability of college students is as follows.

College students' speaking ability = 19.711 + .138 (learning mentoring) + .124 (professor's research project) + .108 (freshman orientation) + .104 (learning community activity)

In this equation, when .138, .124, .108, and .104 are standardized, the regression coefficient of the regression equation is called the standardized regression coefficient. According to the derived regression formula, when learning mentoring, professor's research project, freshman orientation, and learning community activity are 0, the average of university students' speaking ability is 19.9=711, and when other independent variables are the same, if learning mentoring increases by 1 point, It can be predicted that the speaking ability of college students increases by .138 points on average, and if the professor's research project increases by 1 point, the speaking ability of college students increases by .124 points on average. In addition, it can be predicted that if the freshman orientation increases by 1 point, the speaking ability of college students will increase by .108 points on average, and if the learning community activity increases by 1 point, the speaking ability of college students will increase by .104 points. Therefore, it can be seen that the speaking ability of college students has a positive effect in the order of learning mentoring, professor's research project, freshman orientation, and learning community activity. In other words, to enhance the writing ability of college students, it should be possible to provide learning mentoring, professor's research project, freshman orientation, and learning community activities as an extracurricular program provided by the university.

In conclusion, it can be seen that the common extracurricular programs that have the most influence on the writing and speaking ability of college students are learning mentoring and tutoring with seniors or experts.

4. Discussion

Among the results of this study, freshman orientation was found to have a positive effect on writing ability and speaking ability. In addition, it has a positive effect on active participation in school life. Also, learning community activities have a positive effect on writing ability and speaking ability, as shown in the results of this study. In particular, the learning community activity is an activity that affects the learning participation of university students. A professor's research project is an educational method that is mainly used in the science field, in which undergraduate students participate in research together with the professor. Students set their own research questions, observe, and use the latest technology to answer important questions, and in this process, they can experience as researchers. Therefore, as shown in the results of this study, it can be seen that the professor's research project non-examination program has a positive contribution to improving the writing and speaking skills of college students.

As in this study, the American Council on University Education found effective educational experiences to improve learning outcomes. They called it a high-efficiency program. The high-efficiency program is the extracurricular program that not only measures the fidelity of school life perceived by the students themselves, but also enhances their learning outcomes. Educational experiences in which students participate, such as learning communities not

only have a direct effect a direct effect on the growth of knowledge and competency, but also have an indirect effect by improving students' participation in learning.

Writing, which used to be an analog format, has been newly established as a major means of communication in the digital age due to the rapid increase in writing through internet media such as blogs, cafes, and social networks, as well as the use of cell phones and text messages in the 21st century. Currently, in many universities, writing is recognized as basic among liberal arts subjects, and its proportion is quite large. Verbal activities are performed orally or in writing to obtain and transmit information as a communication tool. Oral conversation includes listening and speaking, and written conversation consists of reading and writing. Reading and listening are receptive skills useful for receiving information, and speaking and writing are productive skills useful for creating and transmitting information.

In universities, the current regular curriculum alone is not enough to nurture talents who can meet the rapidly changing demands of the times. Therefore, it is necessary to actively utilize the extracurricular program as an effective way to compensate for the competencies lacking in the regular curriculum. In particular, communication skills such as writing and speaking have few opportunities to be strengthened in major subjects, so it is necessary to use various and appropriate extracurricular programs such as linking with regular subjects. Therefore, as a meaningful experience at university, in addition to activities in the classroom, various activities such as club activities, writing activities, and exchanges with professors and friends should be included as extracurricular programs. In addition to major classes, liberal arts classes and extracurricular activities, extracurricular activities that students freely perform based on school should be systematically supported.

5. Conclusion

The purpose of this study is to analyze which extracurricular program among the extracurricular programs currently in progress at the university has the most influence on writing and speaking skills.

First, looking at the results of research question 1 on the relationship between college students' writing and speaking abilities and non-examination programs, positive correlations were shown between all variables. This suggests that extracurricular programs provided by universities can have a positive effect on the writing and speaking skills of college students.

Second, looking at the results of research question 2 about how extracurricular programs affect the writing ability of college students, it was found that learning mentoring, freshman orientation, professor's research project, and learning community activities had a positive effect on the writing ability of college students. In other words, to enhance the writing ability of college students, it should be possible to provide learning mentoring, freshman orientation, professor's research project, and learning community activities as an extracurricular program provided by the university.

Third, looking at the results of research question 3 on how the extracurricular programs affect the speaking ability of college students, the speaking ability of college students has a positive effect in the order of learning mentoring, professor's research project, freshman orientation, and learning community activities. It can be seen that to enhance the writing ability of college students, it should be possible to provide learning mentoring, professor's research project, freshman orientation, and learning community activities as an extracurricular program provided by the university.

In conclusion, the extracurricular programs that affect the writing and speaking ability of college students are somewhat different in the order of influence, but they are found to be learning mentoring, freshman orientation, participation in research projects by professors, and learning community activities.

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