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Does Practice Improve Writing Performance: A Case Study in Taiwan

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Abstract: Modern society is highly globalized, making English extraordinarily important in almost all aspects. Taiwan is inevitably affected by this trend because the use of English has been deeply involved in many activities such as economic transactions, textbook translations, development of new techniques, and exchanges of agricultural commodities. The study aims to explore whether students improve their writing skills from the class taught and from intensive practices. To achieve this goal, this study develops a multivariate regression model to evaluate the potential influences of important factors on writing performance. The result could be useful to faculty in class teaching and recruiting process of companies because the influences of crucial factors are quantitatively measured. The data is randomly selected from the university records and the result shows that the data fits the model well. The results indicate that student coming from northern Taiwan do not perform as well as students coming from other regions. However, their improvement in writing skills is much better. Male students perform worse than female students because their strengths in logic is outweighed by the weakness in organization and structuring skills.

Keywords: College Students, English Writing, Exam Score, Taiwan

1. Introduction

In recent years, due to intensive global trade activities, the important of learning English has been increased significantly because the use of English has been deeply involved in many activities such as economic transactions, textbook translation, development of new techniques, and exchanges of agricultural commodities. Therefore, students in Taiwan's university are required to learn English. Because people are not always talking to each other, writing skill is an important communication skill in modern society. Write a report, prepare a PowerPoint file or even take an exam, all of which requiring a sophisticated writing skill. For this reason, having (or developing) a desired level of writing ability does benefit people in their job search or professional career all over the word. Taiwan is inevitably affected by such trend since many of its economic, social, and educational activities are linked to the United States culture. To better catch the international influences, learning English is extraordinary important for students who want to continue education and pursue career internationally. In addition, for people who want to maintain their relationship with foreigners, it is necessary for them to improve English skills [1]. Due to the importance of English in such situations, English is a mandatory (and major) subject for students to study at least one academic year in all Taiwan's university. The department of Education of Taiwan sets this policy to make sure that students could be capable of communicating to foreigners and understanding the latest news and information released from outside of Taiwan.

As a tiny island, Taiwan has limited access to discover natural resources, and most of energy consumed by its industries relies on import, in which formal writing skills are especially important because formal documents be written and understood. For this reason, whether a student can write English officially is keyed to a desired position in many international and regional companies. The study aims to explore whether students improve their writing skills from the class taught and from intensive practices. To achieve this goal, this study develops a multivariate regression model to evaluate the potential influences of important factors on

writing performance. The result could be useful to faculty in class teaching and recruiting process of companies because the influences of crucial factors are quantitatively measured.

2. Related Works

Many strategies regarding learning and improving English have been studied widely and intensively from many aspects like engaging (reading), producing (writing), and talking about texts across the contents and levels of education [2-4]. For instance, Gee [5] (1999) has explored and suggested a central strategy for improving the literacy education of marginalized students entails making these students social theorists of social languages. Fairclough [6] discussed that critical language awareness and development of personal language ability and practices of many people have an intimate relationship, implying skills of learning a language may potentially influences the sophisticated use of the language. However, this study did not tell us whether practice may improve the efficiency of the use of a specific language. Moreover, Hanushek [7] showed that the variables representing school and teacher "quality" are typically very crude as the classification of the quality is rough, resulting a core problem in their analysis. Under this circumstance, it is hard to tell whether characteristics associated with specific teachers may alter the results. A previous study [8] showed that the degree level alone neither distinguish colleges of differing quality, nor does it convey any useful information about major of students, certification requirements fulfilled in college, or subsequent professional development. Therefore, it is important to evaluate how the dedication from teachers and students can be transformed into score.

This study implements a more education-related variables that can investigate the core questions raised by previous studies associated with input and output transformation (i.e. learning and scores in this case). Studies [9] found that reparation of a teacher in certain subjects like mathematics and science does have some positive impact on student

achievement while Ehrenberg and Brewer [10] believe that performance achieved by students is positively related to the measures of teachers' colleges. Based on their result, the study accommodates several important factors potentially influencing students' writing efforts in terms of their term scores.

3. Model Specification

The study utilizes a multivariate linear regression model to examine the relationship between a dependent variable, Y *(final writing score)* and five predictor variables X_1(age), X_2(gender), X_3(height), X_4(weight), X_5(dummy variable of living address). The study is designed as below: the author firstly estimates the relationship among dependent and independent variables in the first session (as will be shown in model I), and then estimates whether the performance in the second session is influenced by that in the first semester, which is expressed in model II.

In the multivariate linear regression model,

$$E(Y \mid X_1 = x_1, X_2 = x_2,..., X_7 = x_7) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + ... + \beta_5 x_5$$

Thus, the model I can be expressed as

$$Y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + e_i \quad (1)$$

where
equationn (1) describes the basic form of the multivariate regression model, e_i is a random fluctuation (or error) in Yi and thus E(e_i) equals to 0. This equation is used to analyze the students' performance in their writing class for 2 consecutive semesters. In this case the response variable Y (performance in writing class for first semester) is predicted from 5 predictor variables X_1, X_2, …,X_5 and the relationship between Y and X_1, X_2, …,X_5 is linear in the parameters β_0, β_1, β_2,..., β_5. To see how student's performance of writing class in the second semester is related to that of the first writing class, the model I is further modified to model II

$$Y_{i2} = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \beta_6 Y_{i1} + e \qquad (2)$$

With such modification, equation (2) shows how student's performance in the second semester can be predicted by their first writing class.

4. Variable Description

The data contains 32 effective observations randomly drawn from 2 classes. The population is 140 students in 2 classes and the probability of a student to be selected in the analysis is assumed to follow a uniform distribution. To avoid data selection bias, the students are randomly picked from writing classes by the computer. In addition, because complete data of certain students is not available, 16 students are randomly picked for each class.

The student's performance in writing classes is used as dependent variable in equation (1) and (2) to investigate their score fluctuation to various characteristics. The independent

variables are selected based on their potential influences on students' test performance. X_1 is age, which potentially reflects the mental maturity of a student, implying a potential difference of capability of organizing and structuring an essay. X_2 is gender, describing the natural difference among students. X_3 is height, showing the genetic difference in nature. X_4 is weight, which potentially describes the nutrients they receive. X_5 is dummy variable for living address, all of which potentially affect student's writing performance either directly or indirectly. With such formulation, the study can be used to evaluate and measure the difference of their writing performance in terms of scores.

The summary statistics of these variables is presented in table 1, describing the range of each variable in terms of their minimum and maximum values, standard deviation, and the mean.

Table 1. *Summary Statistics of Dependent and Independent Variables.*

variable	mean	sd	p50	min	max	N
gender	0.59	0.5	2	1	2	32
age	19.5	0.57	19	19	21	32
address	2.09	0.69	2	1	4	32
height	164.78	8.05	163.5	149	185	32
weight	60.53	16.93	56	42	128	32
writing1	55.47	14.61	60	23	85	32
writing2	69.19	19.85	76	17	90	32

5. Regression Result and Discussion

The regression result is shown in table 2. The R- square of equation (1) is 0.324 and 0.404 for consecutive writing class, respectively, showing that the data descript the model just fine. This can be explained by that some important but unknown factors may be ignored in the model and by that the sample size is not large enough. In addition, The results show that male students perform worse than female students in writing class (i.e. the gender is the dummy variable, so male is presented to compare the female). This finding is interesting because in general, writing constitutes several important skills such as paragraph organization, logic presentation, and essay structure. Previous studies [7, 9] have pointed out that male student usually do better in math and science because their logic presentation is better than that of female students. Why their better logic presentation does not influence their writing skills in terms of term scores? A potential explanation for this may be that because writing emphasizes not only logic presentation but also other skills such as organization and structure, better logic performance of male students is outweighed by other factors. In other word, the result indicates that female students have better organization and essay structuring skills.

Moreover, the living region does have a significant influence on student's writing performance. Student coming from northern Taiwan performs worse than those coming from other regions. This contradicts to our knowledge because northern Taiwan is the most developed region in terms of economic condition, educational resource, number of university, average salary, etc. A potential explanation for this strange situation leads to an interesting conclusion for this study. The student who has been ranked in a lower level goes to this sample university. Because students wants to go to northern Taiwan to enjoy better education resources and social benefits, intensive competition ensures that only students ranked in a higher level can go to northern Taiwan (e.g. Taipei city). However, this explanation does not fully tell why students who cannot go to northern Taiwan do not perform as worse as those coming from north. A further explanation is that if students stay in a more developed region for about 18 years until they take a university entrance exam, they have already enjoyed a better education. If they still get the same entrance exam scores as students coming from southern part, it is assumed that students who do not have access to better education resources may study more efficiently.

The m1 shown in the table 2 represent the male* writing performance in 1st semester while n1, mm1, and s1 tells whether the student is coming from northern, central or southern Taiwan, subject to his writing performance in 1st semester, respectively. With such formulation, we are able to see the consecutive influential of students' writing performance in different period and their impacting factors. In the second semester, writing performance of male students, comparing to female students, becomes even worse. This can be explained by that if we are not focusing on training logic, it may not be improved. Instead, organization and structuring skills can be improved during the class by more practices. Therefore, the strengths of organization and structuring skills for females make the differences even larger. Moreover，the study shows that the writing performance in the first semester does have significant influence on the performance in the second semester. This result implies that practice, either in the forms of homework, quizzes, or examines, helps student improve their writing skills. More practice means more chances to revise, to polish, to reorganize, and to modify their essays. For this reason, A student's performance in the writing class of second semester is significantly higher than that in his first writing class.

In addition, where a student comes from does not affect his or her writing performance in the second semester. This is because this property has been incorporated in the first semester and held constant, and no more influences have been considered. However, if we use a trend analysis for students coming from northern Taiwan, it is clear that their writing performance has been significantly improved that that of students coming from regions. This result implies that although northern students do not perform as well as students from other regions in the beginning, their potential can still be explored. In general, model II seems to fit data well because its R-square is approximately 0.832, implying the relationship between the writing performance in the second semester and independent variables are highly related. For this reason, the results and interpretation may be valid. Age, weight, and height are not statistically significant on the students' writing performance.

Table 2. *Regression Result of Model I and Model II.*

	(1)	(2)	(3)	(4)
	Performance in 1st session	Performance in 2nd session	Impact of 1st on 2nd	Cross Impact of 1st on 2nd
	writing1	writing2	writing2	writing2
writing1			0.972***	0.0144
			-6.07	-0.03
age	3.883	11.23*	7.455**	5.866
	-0.86	-1.99	-2.12	-1.24
male	-17.83**		-22.41**	-5.081	-33.15

	(1)	(2)	(3)	(4)
	Performance in 1st session	Performance in 2nd session	Impact of 1st on 2nd	Cross Impact of 1st on 2nd
	writing1	writing2	writing2	writing2
	(-2.79)	(-2.11)	(-0.77)	(-1.45)
middle	-9.835	-12.36	-2.802	-67.41
	(-1.43)	(-1.41)	(-0.43)	(-1.68)
south	-13.48	-10.78	2.319	-3.402
	(-1.46)	(-0.86)	(-0.24)	(-0.09)
height	0.289	0.313	0.0321	0.179
	-0.66	-0.59	-0.11	-0.43
weight	-0.0207	-0.00013	0.02	0.0015
	(-0.12)	(-0.00)	(-0.13)	(-0.01)
m1				0.611
				-1.62
n1				-0.0982
				(-0.64)
mm1				0.929
				-1.6
s1				-0.24
				(-0.38)
north	-14.69**	-0.474	13.80*	
	(-2.14)	(-0.05)	-1.93	
Constant	-48.33	-182.3	-135.4	-60.23
	(-0.43)	(-1.27)	(-1.56)	(-0.53)
Observations	32	32	32	32
R-square	0.324	0.404	0.749	0.832

Note: *,**,*** are confidence level under 10%, 5% and 1%, respectively；

6. Conclusion

Writing a formal document in English is of importance to communicate with people in modern society, and it would be difficult for a person who wants to pursue a higher education level and gets promoted in career cannot write. Under this situation, Taiwan's college students are required to take English writing classes. The study employs two multivariable regression models to evaluate the factors affecting student's writing performance, in terms of scores. To avoid data selection bias, the students are randomly selected from writing classes. The regression results indicate that gender and students' living region do have significant influences on their writing performance.

However, the influence of living region only exists in the first semester and disappears in the second semester. This is because this property has been incorporated in the first semester and held constant, and no more influences have been considered. In general, model II seems to fit data much well than model I because more influential variables are incorporated. R-square of model II is approximately 0.832, implying the relationship between the writing performance in the second semester and independent variables are highly related. However, the sample size is not large and the future studies may accommodate more universities and enlarge the sample to conduct a more comprehensive analysis.

References

[1]   N. Modiano, "Linguistic imperialism, cultural integrity, and EIL," ELT Journal, 2001, 55 (4), 339-346

[2]   T. L. Harris and R. E. Hodges, (Eds.). The literacy dictionary: The vocabulary of reading and writing, 1995, Newark, DE: International Reading Association.

[3]   B. Street, Literacy in theory and practice, Cambridge: Canbridge University Press, 1995.

[4]   R. L. Venezky, D. A. Wagner, and B. S. Ciliberti, (Eds.), Toward defining literacy. Newark, DE: International Reading Association, 1990.

[5]   J. Gee, "Learning language as a matter of learning-social languages within discourses", Paper presented to the annual meeting of the American Educational Research Association, Montreal, Canada, 1999.

[6]   N. Fairclough, Critical discourse analysis: The criticalstudy of language. London: Longman, 1995.

[7]   E. A. Hanushek, "The economics of schooling: production and efficiency in the public schools," Journal of Economic Lierature, 1986, XXIV (3): 1141-78.

[8]   D. G. Dan and J. B. Dominic, "Evaluating the effect of teacher degree level on educational performance." Reports-Evaluative/Feasibility(142), 1996.

[9]   D. H. Monk and J. King, "Multi-level teacher resource effects on pupil performance in secondary mathematics and science: the role of teacher subject matter preparation." In R. G. Ehrenberg, ed., Choices an Consequences: Contemporary Policy Issues in Education, 1994, pp. 29–58. Ithaca, NY: ILR Press.

[10] R. G. Ehrenberg. and D. J. Brewer, "Do school and teacher characteristics matter? Evidence from High School and Beyond", Economics of Education Review, 1994, 13 (1): 1-17.