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What are the Effects of Project-based English Curriculum on the Development of Learners' Competencies? A Case Study of a Japanese University English Language Program

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Abstract

Japanese English education reform continues to falter, and the same is true of university English education. However, amidst these circumstances, transmission-oriented English education is gaining attention as a methodological approach to English language educational reform. Transmission-oriented English education, in which the authors are also engaged, is a model for reform that shifts the emphasis from the traditional reception-based approach in English education to a more communicative, active learning approach. However, while these educational practices have shown results in terms of excitement in the classroom and subjective satisfaction among learners, there is a lack of objective proof, and the accumulation of research to verify the results objectively is an urgent need. In this paper, we examine the results of the GTEC (Global Test of English Communication)-Academic and TOEIC (Test of English for International Communication), which objectively measure English proficiency, and the GPS (Global Proficiency Skills)-Academic, which objectively measures basic social competencies, in two different groups of participants to determine whether the presence or absence of transmission-oriented English education has contributed to the growth of abilities ranging from subsets of English skills to socially necessary competencies by utilizing statistical verification. One interesting result was that the experimental group that took transmission-oriented English education for one year scored significantly higher in English writing than the group that did not, and since there were no statistically significant differences in any of the other components of English proficiency, we concluded that this could be considered an outcome of transmission-oriented English education.

Keywords: transmission-oriented English education, GTEC-Academic, GPS-Academic, TOEIC, writing, English education reform in Japan

1. Introduction

Throughout the years, there have been many doubts about the substantiality of English education in Japan (cf. Butler and Iino, 2005). University English education, the subject of this paper, is no exception, and despite strong government incentives, the road to "English-speaking Japanese (*Eigo ga Tsukaeru Nihonjin*)" (MEXT [Ministry of Education, Culture, Sports, Science and Technology of Japan], 2002) is far from complete, with problems of motivation after enrollment, slow growth in English proficiency, and its poor ranking in international comparisons.

On the other hand, Japanese universities have not simply stood by and done nothing to deal with these issues (see, for example, Tada, 2016). Many universities have "reformed" English education by having English courses taught by native English speakers and, in conjunction with trends in pedagogical methods, have moved toward an interactive, participatory curriculum that emphasizes a communicative approach. Naturally, as this is an educational process, it is unlikely that the effects of these reforms will be seen immediately, so it is expected that the effects of these reforms will emerge in the future. However, as of now, judging from the TOEFL rankings by country (MEXT, 2022), for example, the answer to the question of whether Japan's English education reforms have been tremendously successful and whether many Japanese have achieved a high level of English

proficiency is probably “no”.

Under these circumstances, the author and his colleagues are also working on English education reform based on a unique method (Yamanaka et al. 2021). The PEP (Project-based English Program) in which the project-based educational method, as well as transmission-oriented and active learning methods, are incorporated in the program. It is in line with a series of English education reforms in Japan that emphasize communication, but also emphasize production act (sending) rather than perception act (receiving), the use of English rather than learning it, and the transformation of knowledge from static to dynamic and functional. The classroom environment focuses on presentations and discussions and could be described as taking a student-centered approach to language education.

While this type of transmission-oriented English education is being implemented in many parts of Japan (e.g., Horai 2011, Yamanaka & Kawai 2017, Yasuda et al. 2020, etc.), the results have not been sufficiently demonstrable. The apparent lively classroom scene is the impression of many on-site teachers, which is only their opinion about the approach, despite the positive feedback they have received. The development and implementation of an educational program is meaningful only when it is verified, and there is a need for "research" on the adoption of transmission-oriented English education and active learning into English education in Japan that does not end with a mere report. This paper is based on such a purposeful intent.

Nevertheless, the lack of systematic research on what skills and abilities transmission-oriented English education affects in learners makes it difficult to identify specific items. While it is naturally predictable and desirable that students develop related skills and abilities through transmission-oriented education, it is also possible that the cultivation of transmission skills is not limited to the cultivation of language skills alone. The purpose of this study, therefore, was to clarify which abilities of learners are enhanced by transmission-oriented English education, and which aspects of it are not effective. Through the relationship with the " interpersonal skills" that are expected of working adults in a wide range of fields, and by examining the individual skills in English, we aimed to detect what the outcomes of transmission-oriented English programs are, based on the scores of the assessments.

Many of the educational practices that are intended to promote transmission-oriented and active learning-based use questionnaires and interviews as measures of their results, but in many cases, the learners themselves are the ones involved, so that they often tend to give subjective, positive evaluations of the results. Therefore, in this study, we decided to use only methods whose results can be statistically guaranteed based solely on scientific methodology. To the best of the authors' knowledge, there have been no studies that have investigated the relationship between English proficiency and generic skills for working adults using objective scores from assessments such as the GTEC-Academic and GPS-Academic, which will be discussed later in this article. A previous study on the relationship between social skills and language skills was conducted with preschool children (Mulvey and Jenkins, 2021), but was found that language skills were not necessarily a significant predictor of societal behaviors. However, the target population of this study is different from college students who are about to enter the workforce, and the accumulation of such findings will provide clues as to how language education that teaches English as a foreign language may or may not be useful for the abilities expected by society in general. For the reasons noted above, there have been few objective empirical studies on the outcomes of transmission-oriented language education, so the findings of this study will be significant from this perspective in this respect as well.

2. Method

2.1 Participants

The participants were students from a large Japanese private university, consisting of 54 freshmen (32 male, 22 female) and 56 sophomores (32 male, 24 female). They are all students who are taking the Project-based English Program as part of their university's required curriculum. However, since the study was implemented in April 2022, the first-year students had just entered university (the new semester begins in April at Japanese universities), and the second-year students had finished taking the project-based English language program for one year. Most of the first-year students are 18 years olds and most of the second-year students are 19 year olds.

2.2 GPS-Academic

With the background of extensive discussions such as "basic skills for working adults" proposed by METI (Ministry of Economy, Trade and Industry of Japan) and the OECD (The Organisation for Economic Co-operation and Development) Learning Compass 2030, GPS-Academic was jointly developed by Benesse Corporation and Benesse i-Career in 2016 to visualize generic skills such as "Thinking (as a base to solve

problems)" and "Attitude (to tackle issues independently)". As of FY2021, more than 200,000 students from more than 160 universities have taken the test. The test is used to verify the results of university education, to visualize learning outcomes, and to motivate students to learn. The questions are based on CBT (Computer Based Testing) using audio, video, text, and charts to measure (a) Thinking (Critical thinking, Collaborative thinking, Creative thinking), (b) Attitudes (Resilience, Leadership, Collaboration), (c) Experience (self-management, interpersonal relationships, Planning and action). In addition to these measurements, the combination of (d) Questionnaires enable us to understand students from multiple perspectives. (See Table 1 for details on the measurement items.)

Table 1. GPS-Academic measurements and evaluation methods

Major	Medium	Minor	Evaluation
(a) Thinking	[a-1] Critical thinking	・Information extraction and examination ・Logical structure and its representation	Objective evaluation
	[a-2] Collaborative thinking	・Understanding similarities and differences with others ・Participation in society and relations with people	Objective evaluation
	[a-3] Creative thinking	・Associating information ・Identifying problems and creating solutions	Objective evaluation
(b) Attitudes	[b-1] Resilience	・Stress tolerance ・Resilience ・Self-control & flexibility	Objective evaluation
	[b-2] Leadership	・Initiative ・Challenge ・Persistence	Objective evaluation
	[b-3] Collaboration	・Empathy ・Extroversion	Objective evaluation
(c) Experience	[c-1] Self-management	・Challenge ・Continuous effort ・Cope with stress	Subjective evaluation
	[c-2] Interpersonal relationship	・Accepting diversity ・Create relationships ・Discussion	Subjective evaluation
	[c-3] Planning and action	・Create issues ・Planning for solutions ・Action and verification	Subjective evaluation
(d) Questionnaires	Student awareness survey	Acceptance/satisfaction with university, curriculum evaluation, image change, class usefulness, etc.	Subjective evaluation

Note that (a) Thinking is modeled on the critical thinking process and construct framework (Kusumi 2015) to create questions and measure Thinking required for problem solving. The results of the Thinking survey conducted by Hasegawa, Makino, Kobayashi, and Kusumi (2017) also suggested that it measured generic skills that was not measured by tests of academic subject achievement. (b) Attitude uses a format of selecting "most often true" and "least often true" from three questions to measure high and low positivity for each of the Attitude items (major, medium, and minor categories in Table 1). (c) For Experience, scores are calculated based on the results of responses on a 5-point scale of "very often," "often," "sometimes," "a little," and "not at all," regarding the type of experience one has had in the past.

2.3 GTEC

GTEC is an assessment developed by Benesse Corporation and is a four-skills English test that can measure English communication skills of a wide range of English learners. The test measures the four skills of reading, writing, speaking, and listening, and uses an absolute score based on IRT rather than pass/fail. GTEC includes "GTEC-Junior" for elementary to junior high school students, "GTEC" for junior high and high school students, "GTEC-Academic" for university students and adults, and "GTEC-Business". Since the subjects in this study were university students, we selected GTEC-Academic, which is designed for university students and adults.

GTEC-Academic is an English communication test for university students that uses CAT (Computer-adaptive

Testing) and IRT (Item Response Theory) to accurately measure English proficiency in four skills in a short time (approximately 50 minutes). For listening and reading, the test includes not only short-text comprehension questions but also long-text comprehension questions in a clickable format. On the other hand, writing and speaking are graded by English speakers to measure practical English skills. (See Table 2 for details of the measurement items).

The test results not only show the total score (out of 1,000 points) and each skill score (out of 250 points each) but also CAN-DOs for each skill and skill profiles for each part of the test so that examinees can understand their strengths and weaknesses and set their next learning goals. The skill profiles for listening and reading are part-specific scores, while the skill profiles for writing and speaking are the student's scores for each part of the test. The writing and speaking skill profiles are rated on a 10-point scale based on the examinee's answers and the scorer's evaluation of the recorded audio content, and the ability statements are presented on the form. (See Table 3 for the measurement items of the skill profiles.)

Table 2. GTEC-Academic measurement ability and question structure

	GTEC-Academic Listening 21 questions approx. 11 min.	GTEC-Academic Reading 16 questions approx. 17 min.	GTEC-Academic Writing 2 questions approx. 12 min.	GTEC-Academic Speaking 3 questions approx. 9 min.
Aim of ability measurement	Measures listening ability from multiple perspectives, including immediacy, information selection, and comprehension of key points	Measures English reading comprehension skills from multiple perspectives, focusing on the lower skills of reading	Measures writing ability practically with content directly related to daily life	Measures speaking ability from pronunciation through realistic situations and tasks
Answer format	Select by clicking	Select by clicking	Answers by keyboard input	Answers in audio recording format
Question composition	Photo description questions / Illustration description questions [5 questions]	Vocabulary and word usage questions [8 questions]	Short and memo writing question [1 question]	Pronunciation, rhythm, intonation [1 question].
	Conversation response questions [8 questions]	Rapid reading and comprehension questions [8 questions]	Middle passage and e-mail composition question [1 question].	Conversation simulation questions [1 question (sub-question 3)]
	Comprehension questions [8 questions]	Long passage comprehension questions [8 questions]		Short presentation question [1 question].

Table 3. GTEC-Academic Skills Profile Assessment Items (each item rated on a scale of 1 to 10)

GTEC-Academic Listening	GTEC-Academic Reading	GTEC-Academic Writing	GTEC-Academic Speaking
[Part A] Photo description questions / Illustration description questions	[Part A] Vocabulary and word usage questions	GA Goal Achievement	GA Goal Achievement
[Part B] Conversation response questions	[Part B] Rapid reading and comprehension questions	GR Grammar	GR Grammar
[Part C] Comprehension questions	[Part C] Long passage comprehension questions	VO Vocabulary	VO Vocabulary
			PR Pronunciation

2.4 TOEIC

TOEIC is a standardized English assessment test that evaluates a wide range of English communication skills, especially those used in business. Currently, of the three TOEIC Programs, TOEIC L&R is evaluated with a total score of 990 points (cf. Educational Testing Service [2016: 7]), with a maximum score of 495 points for Listening and 495 points for Reading. In addition, since TOEIC L&R is considered to reproduce realistic situations and settings on the test (ibid.: 7) in order to assess the English skills required for actual communication, being able to solve TOEIC questions does not only mean being able to solve questions to prepare for the test, but also that the questions should be usable in actual communication (Tanaka 2017). On the other hand, TOEIC is a norm-referenced test of receptive skills and therefore it does not directly test productive skills (Wilson, 1989; Daller and Phelan, 2013).

2.5 Project-based English Program; PEP

PEP is an English education program developed at Keio University and deployed in several faculties of Ritsumeikan University, in which students are asked to develop a project based on their own interest or concerns and to communicate it in the form of presentations and other activities (Suzuki, 2003; Yamanaka et al., 2021). In a PEP implemented in a typical university English education, the following curriculum is frequently developed. Students decide their research themes by themselves, exploring and sharing their ideas.1st and 2nd -year students do presentations, debates, panel-discussions and so on on familiar themes such as their daily life and classes. In the second term of the second year, students work on term papers of about 2,000 words in length.3rd-year students work on themes related to their specialist fields in English and conduct poster presentations. 4th-year students (for those who wish to) write an English summary of their graduation thesis and give an oral presentation.

One of the main characteristics of PEP is that it does not use a knowledge transfer method in which teachers teach students the content of a specific textbook, but rather provides a free learning environment that is tailored to the interests of each student. It is also characteristic that the faculty's skills, as researchers, play a major role in how to develop and disseminate individual learner projects. In addition to the universities mentioned above, PEP has been practiced at several other universities (Osaka University, Kinki University, Chiba University of Commerce, Hokuriku University, etc.) and serves as a showcase for the reform of English education in Japan (Kambara and Yamanaka, 2022).

2.6 Study Design

This study analyzes the results of the same GTEC-Academic and GPS-Academic tests taken by freshmen and sophomores in transmission-oriented English education programs in Life Sciences and Pharmaceutical Sciences at a private university in Japan at the start of the new Japanese school year in April 2022. In addition, sophomores took the online version of the TOEIC-IP (Institutional Program) approximately four months earlier, in December 2021, and one year earlier, in April 2021, so that these scores were also included in the analysis as data showing the growth of English proficiency. The group of freshmen and sophomores are university students from the same university and in the same major. As freshmen and sophomores in science departments of Japanese universities, they have many required courses and take almost similar courses, including English courses. For freshmen, April is the first month of school, and they took the exam with little or no transmission-oriented English education. In comparison, the sophomore cohort will have approximately one year of transmission-oriented English education. The participants' undergraduate schools require that they take PEP as a required course, two sessions per week for 30 weeks per year.

This analysis allows us to examine the relationship between two major factors. 1) By comparing the results of two completely different assessments, one based on objective English language scores such as GTEC Academic and TOEIC, and the other on basic skills for working adults such as GPS-Academic, we can determine what kind of relationship exists between the two. 2) Since the same assessment was taken at the same time by freshmen and sophomores, it is possible to find out how these scores are related to the difference between freshmen and sophomores, i.e., whether they have experienced transmission-oriented English education or not.

2.7 Statistical Analysis

To verify whether there is a statistical relationship between English proficiency and basic skills for working adults, we checked whether there is a correlation between GTEC-Academic, TOEIC and GPS-Academic. Furthermore, in the case of TOEIC, since freshman scores were available for sophomore subjects, we checked whether there was a correlation between growth in TOEIC scores and GPS-Academic (i.e., we investigated the correlation between the presence or absence of growth in English proficiency and basic skills for working adults).

In addition, the correlation between GTEC-Academic and TOEIC was also checked to confirm the relationship between English assessments.

To ascertain the outcomes of transmission-oriented English education, a test suitable for two unresponsive samples (Welch's t-test) (Microsoft Excel's "Test with two samples assuming variances are not equal") was conducted on the difference in scores between freshmen and sophomores across each item in the assessment.

All statistical analyses were performed using Microsoft Excel.

3. Results

3.1 GPS-Academic Results

The GPS-Academic results for all participants are shown in Table 4. The freshman and sophomore average results are similar, with a few items that are slightly higher for freshmen than sophomores. For reference, the table includes the average scores of freshmen who took the GPS-Academic in Japan, and when compared to these scores, the participants in this study scored higher on average than the national average. In the following sections, the sub-items of Experience, such as Self-management, Interpersonal relationship, and Planning and action, will be omitted because they were evaluated subjectively and thus differ in purpose from the objective demonstration that this paper aims for. Therefore, we omit the description of these items and show only the total score of Experience.

Table 4. List of GPS-Academic results (excerpts)

	Thinking (total)	Critical thinking	Collaborative thinking	Creative thinking	Resilience	Leadership	Collaboration	Experience (total)	Self-management	Interpersonal relationship	Planning and action
(1) Freshmen	50.3	52.1	45.3	51.8	48.7	48.3	51.3	62.8	62.8	64.2	61.4
(2) Sophomores	48.4	49.8	43.3	50 0	47.8	48.4	49.2	58.9	57.0	58.9	60.6
(3) National average	43.1	42.4	40.7	44.4	47.9	47.2	50.1	56.8	54.4	59.9	55.9
(1) - (3)	7.2	9.7	4.6	7.4	0.8	1.1	1.2	6.0	8.4	4.3	5.5
(2) – (3)	5.3	7.4	2.6	5.6	-0.1	1.2	-0.9	2.1	2.6	-1.0	4.7

National average is the average score of GPS-Academic freshman as of the end of May 2022. (N=101,268)

3.2 GTEC-Academic Results

The GTEC-Academic results for all participants are shown in Table 5. The freshman and sophomore average results are similar, but on average, the sophomores score higher on all items than the freshmen (this point will be verified in a later section with a statistical test of differences). As a reference, the table includes the average scores of freshmen who took the GTEC-Academic in Japan, and when compared to those scores, the participant in this study scored higher on all the averages when compared to the national average.

Table 5. List of GTEC-Academic results

	Listening	Reading	Writing	Speaking	Total
(1) Freshmen	109.6	104.9	111.3	111.4	437.1
(2) Sophomores	116.4	105.1	122	114.1	457.6
(3) University freshmen score	106.7	95.7	110.3	108.8	421.5
(1) – (3)	2.9	9.2	1	2.6	15.6
(2) – (3)	9.7	9.4	11.7	5.3	36.1
(2) – (1)	6.8	0.2	10.7	2.7	20.5

University freshmen score is the average score of 7,740 freshmen who took the GTEC Academic in the 2018-2021 academic year.

3.3 Correlation between GPS-Academic and GTEC-Academic, and TOEIC

Table 6 shows the correlation between GPS-Academic, which is designed to measure basic skills for working adults, and GTEC Academic and TOEIC, which measure English proficiency. It shows that the Thinking (total score) measured by GPS-Academic is correlated with the reading score and the total score of the GTEC-Academic. similarly, Critical and Creative thinking, which are subcategories of the overall GPS-Academic Thinking, were correlated with the reading score of the GTEC-Academic. No correlations were found for the other items. Although the TOEIC also measures reading ability in English, no correlation was found between the TOEIC reading score and the GPS-Academic Thinking score. This may be due to the creation policy of each English assessment, and it is reasonable to assume that GTEC-Academic creates reading questions with more emphasis on thinking skills compared to TOEIC.

Table 6. Correlations between GPS-Academic and GTEC and TOEIC (excerpts)

		Thinking (total)	Critical thinking	Collaborative thinking	Creative thinking	Resilience (sub-total)	Stress tolerance	Resilience	Self-control & flexibility	Leadership (sub-total)	Initiative	Challenge	Persistence	Collaboration (sub-total)	Empathy	Extroversion	Experience (total)
GTEC-Academic score	Listening	.35	.25	.27	.28	-.08	-.11	-.10	.02	-.02	-.14	.05	0 05	-.09	.01	-.16	-.01
	Reading	.49	.43	.36	.41	-.02	-.08	-.01	.03	.09	-.09	.14	.16	.03	.16	-.13	-.07
	Speaking	.36	.26	.36	.27	.05	-.01	.01	.13	.03	-.09	.04	.11	-.01	.07	-.10	.10
	Writing	.26	.20	.22	.21	-.02	-.06	-.01	.02	-.01	-.08	.01	.05	-.02	.00	-0 03	-.01
	Total	.45	.35	.37	.36	-.03	-.08	-.04	.06	.03	-.12	.08	.11	-.03	.08	-.13	.00
TOEIC score	Listening	.17	.09	.07	.15	.07	.04	-.04	.18	.06	-.10	.08	.14	.02	.13	-.11	.06
	Reading	.24	.15	.18	.14	.04	-.06	.01	.15	.16	-.02	.26	.15	-.01	.11	-.14	.02
	Total	.24	.14	.15	.16	.06	-.02	-.01	.19	.14	-.07	.21	.17	.00	.14	-.15	.04

3.4 Correlation between TOEIC Score Growth and GPS-Academic

In Table 6, there was no correlation between TOEIC and GPS-Academic. Thereupon TOEIC scores could be traced over time (changes in scores over a period of approximately 8 months, once in April 2021 and again in December 2021), Table 7 examines the correlation between TOEIC score growth and GPS Academic scores. It shows that there is no correlation at all between the two factors, indicating that one is not statistically predictive of the other's results.

Table 7. Correlations between TOEIC score growth and GPS-Academic

	TOEIC Listening	TOEIC Reading	TOEIC total	Thinking (total)	Critical thinking	Collaborative thinking	Creative thinking	Resilience (sub-total)	Stress tolerance	Resilience
TOEIC Listening	1	.26	.76	-.06	-.02	-.13	-.07	.09	.11	.01
TOEIC Reading		1	.83	-.15	-.16	-.22	-.10	-.20	-.23	-.21
TOEIC total			1	-.14	-.12	-.22	-.11	-.08	-.09	-.14

	Self-control & flexibility	Leadership (sub-total)	Initiative	Challenge	Persistence	Collaboration (sub-total)	Empathy	Extroversion	Experience (total)
TOEIC L	.09	.12	.03	.15	.11	.16	.20	.03	.30
TOEIC R	-.03	.11	-.04	.25	.07	-.02	.15	-.23	.22
TOEIC total	.03	.14	-.01	.25	.11	.08	.21	-.13	.32

3.5 Correlation between GTEC-Academic and TOEIC

From the results in Table 6, we mentioned the possibility that GTEC-Academic and TOEIC may have different policies for creating questions and, therefore, that the results may have differed in terms of whether they correlate with GPS-Academic. However, since they both measure English language proficiency, there should be a certain relationship between the results of the two. Table 8 shows the correlation between the GTEC-Academic and TOEIC scores, and for example, the correlation coefficient between the GTEC-Academic total and the TOEIC total was 0.58. This result suggests that both assessments retain a certain degree of validity as indicators of English language assessment.

Table 8. Correlation between GTEC-Academic and TOEIC

	GTEC Listening	GTEC Reading	GTEC Speaking	GTEC Writing	GTEC total	TOEIC Listening	TOEIC Reading	TOEIC total
GTEC Listening	1	.68	.73	.42	.87	.43	.39	.47
GTEC Reading	.68	1	.53	.53	.85	.41	.45	.50
GTEC Speaking	.73	.53	1	.49	.82	.43	.44	.50
GTEC Writing	.42	.53	.49	1	.73	.24	.46	.42
GTEC total	.87	.85	.82	.73	1	.46	.53	.58
TOEIC Listening	.43	.41	.43	.24	.46	1	.48	.83
TOEIC Reading	.39	.45	.44	.46	.53	.48	1	.89
TOEIC total	.47	.50	.50	.42	.58	.83	.89	1

3.6 Statistical Tests of Differences in Average Scores for the Four English Language Skills on the GTEC-Academic

To examine the differences between freshmen and sophomores with and without experience in transmission-oriented English education, we used GTEC-Academic and TOEIC scores by skill (GTEC Academic: four skills: Listening, Reading, Speaking, and Writing; TOEIC: two skills: Listening and Reading) to test the differences in the averages of the scores. Then, a statistically significant difference was confirmed only in the Writing score of GTEC-Academic. This means that the students in the sophomore year were guaranteed to score higher in English writing results than those in freshman year, indicating that there was (only) an effect of writing education.

Table 9. Tests of differences in average GTEC-Academic scores by the four English language skills

	Freshman average	Sophomore average	Value of both sides of P
GTEC-Academic Listening	109.6	116.4	.16
GTEC-Academic Reading	104.9	105.1	.96
GTEC-Academic Speaking	111.4	114.1	.46
GTEC-Academic Writing	111.3	122.0	.01*
TOEIC Listening	249.9	269.3	.08
TOEIC Reading	212.4	217.5	.70

3.7 Statistical Analysis of the Difference between the Averages of the Three Skill Profiles in Writing on the GTEC Academic

GTEC-Academic has identified three unique skill profiles, which are important for writing skills, and assesses each of them individually. These are not writing sub-skills in the strict meaning of the term, but rather are positioned as feature-specific scores, and are divided into GA (Goal achievement), GR (Grammar), and VO (Vocabulary), respectively. Table 10 shows whether there is a statistically significant difference between these results and the average scores of the freshman and sophomore students' skill profiles. According to the results, no significant differences were confirmed for GR and VO, while the results for GA were verified to be significantly higher for sophomores than for freshmen.

Table 10. Tests of differences in the averages of the three skill profile items in the GTEC-Academic writing

	Freshman average	Sophomore average	Value of both sides of P
GA (Goal achievement)	5.48	5.76	.03*
GR (Grammar)	3.72	3.98	.35
VO (Vocabulary)	3.72	4.18	.13

4. Discussion and Conclusion

It should be assumed that university students are not only taking English education in their daily lives but are also influenced by a variety of factors. In fact, the fact that most of the correlations between the data obtained were not significant and were within the margin of error, so to speak, seems to be indicative of the diversity of the real world. On the other hand, while most of the factors did not show statistically warranted relationships, two major factors showed exceptional relationships ("correlations between GPS-Academic Thinking and GTEC-Academic reading scores" and "statistical significance of the average of freshman GTEC-Academic writing scores and sophomore GTEC writing scores"). One of these factors ("statistical significance of the average of freshman GTEC-Academic writing scores and sophomore GTEC-Academic writing scores") is interesting and deserves special mention.

The first relationship found, the correlation between Thinking score on the GPS-Academic and reading score on the GTEC-Academic, is not particularly surprising, as it shows that reading comprehension, which would require logical and analytical skills, is related to Thinking which also needs logical and analytical skills. And since these logical and analytical skills are different from (or at least misaligned with) the emphasis on transmission-oriented English education, it is logically unreasonable to assume that high Thinking performance could be acquired through the development of English language skills via transmission-oriented English education. In fact, there is no correlation between TOEIC reading scores and GPS-Academic Thinking scores. This may indicate a difference between the quality of the reading questions on the GTEC-Academic and TOEIC, but it also suggests that it is difficult to empirically demonstrate that transmission-oriented English education contributes to the cultivation of Thinking.

On the other hand, it would be interesting to discuss the second finding, the guaranteed statistical significance regarding the higher sophomore and lower freshman writing scores on the average of the writing scores of the freshman and sophomore on the GTEC-Academic. In this regard, the fact that other factors did not guarantee a statistical difference contributed effectively to the opposite sense. That is, in the four English language skills of freshmen and sophomores, the average GTEC-Academic reading score, the average GTEC-Academic speaking score, the average GTEC-Academic listening score, the average TOEIC-Academic reading score, and the average TOEIC listening score, no statistically significant differences were not found. The implication of this would be that there is essentially no difference between the freshman and sophomore cohorts in terms of English proficiency. In other words, it is highly unlikely that the sophomore group is inherently superior in English proficiency and the freshman group vice versa, since no differences were found in the sub-skills that comprise all English proficiency (apart from GTEC-Academic writing). Thus, although the freshman and sophomore participants are naturally different individually, when viewed as a group, they can be considered highly homogeneous in terms of English proficiency. Therefore, the exceptional difference in the average of GTEC-Academic writing score stands out. The GTEC-Academic is computer-adapted, and the difficulty level of the reading and listening tests varies depending on whether the test takers give correct answers or not. After taking the reading and listening tests, they then take the speaking and writing sections of the test. For these two skills sections, the questions are "fixed" in difficulty, reflecting the percentage of correct responses from the reading and listening sections. Nevertheless, only sophomores scored higher than freshmen in writing, which might well explain the uniqueness of this result.

While it is certainly too early to make a definitive conclusion, one of the main differences between freshmen and sophomores are whether they take a year of the PEP or not. The PEP focuses on the development of transmission-oriented skills, which in a general sense is education that focuses on the development of speaking and writing that are productive skills, rather than reading and listening that are perception skills. Although it will be necessary to separately examine whether the program has succeeded in fostering ability, there is no doubt that it has at least encouraged learners to focus more on productive skills than on perception skills. As a result, transmission-oriented English education may have increased the writing ability of this group. Therefore, it would not be so strange to conclude that the Transmission-oriented education may have contributed to the improvement

of writing ability. Supporting this conclusion is the data showing that of the three skill profiles of writing ability indicated by the GTEC, GA (Goal Achievement), GR (Grammar), and VO (Vocabulary), only GA showed a statistically significant difference (cf. Table 10). GAs are items that are evaluated when language activities are viewed as communicative, that is, whether the message was conveyed and whether the purpose was accomplished, rather than detailed linguistic accuracy and fluency. Naturally, the focus of transmission-oriented English language education is on the development of English language skills that function in this type of communication. In other words, it does not take the approach of stopping the flow of communication to correct errors in vocabulary and grammar each time. As a result, while there is no difference in GA and VO between freshmen and sophomores, sophomores are steadily improving their GA ability, which is in line with the direction of transmission-oriented English education. It is also possible that the higher GA contributed to the higher writing scores, which nicely illustrates the outcomes of transmission-oriented English education.

One possible objection is that since this is a comparison of freshmen and sophomores, it does not necessarily follow that sophomores have received only transmission-oriented English education during the year, and that other factors contributed to the increase in writing scores compared to freshmen. While we cannot dismiss this view entirely, the fact that there were no differences in reading, speaking, listening, or any other ability, while differences were found only in writing ability, suggests that explicit instruction in writing in English, one of the output-based productive skills, played a role in some way. It is natural to assume that explicit education was involved in some way in promoting writing in English. Otherwise, it is highly likely that several other abilities would have grown at the same time.

Nevertheless, the results of this study cannot be evaluated unreservedly. According to the previous discussion, transmission-oriented English education should improve speaking ability as well as writing, which constitutes transmission-oriented skills, and the fact that there is no statistically significant increase in speaking ability suggests the need for improvement in teaching methodology. Also, as an argument to begin with, the question of whether people can only learn to do what they are taught remains. While explicit direct teaching will increase the ability in question, it is necessary to verify whether it does not have an indirect effect on the development of other abilities. The study only compared the results of one year of transmission-oriented English education for sophomores and freshmen, leaving little room for longer-term comparisons or clarification of which elements of the content of instruction counts.

In addition, this verification only took a specific university as a case study, thus we must refrain from immediately generalizing the results of this analysis. Also, the small number of participants makes it impossible to provide a certain suggestion. It is desirable that more such validations be conducted in the future, and that large-scale validation and demonstration of what can be objectively said to be the results of transmission-oriented and active learning-based language education be conducted.

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