

The Effect of Learning Motivation on Test Scores : A Longitudinal Study of the Test Scores in Compulsory English Courses

Yoshihiko NAKAZATO

学習動機がテストの得点に及ぼす影響：必修英語科目の試験結果の経時的考察

中里喜彦

2014年度に東海大学海洋学部に入学者を対象として、2年間にわたる英語テストの得点の推移を考察した。これを、学習動機という視座で議論した。この学生達は、入学時アンケート調査を受けており、このアンケートの設問と、Ryan・Deci (2002) や Dörnyei (2009), Gardner (2010) の学習動機理論との間に関連性が見いだせた。故に、アンケートへの回答は、学生の学習意欲の強弱を表すと見なすことができた。つまり、この学習意欲の強弱が、入学時の基礎学力テストや、入学後の必修英語科目の定期試験の得点にどのように影響したのかを分析したことになる。テストの得点と強い相関関係を示した項目は、英語の好き嫌いに関する設問である。これに対する回答に従い、学生たちを4グループに分類して、各グループの得点の推移やグループ間の得点の差異をt検定等を用いて分析した。内在的要因となる好き嫌いはもちろん、英語コースの内容という外来的要因も得点の変化に影響を与えたと見做せた。

Key Words : Learning Motivation, Test Scores, SLA

Introduction

At Tokai University, the compulsory English curriculum is made up of four courses: Listening & Speaking 1 (LS1), Reading & Writing 1 (RW1), Listening & Speaking 2 (LS2), and Reading & Writing 2 (RW2). The former two courses are studied in the first year and the latter two courses are studied in the second year. The syllabi and examinations for these courses are written by a committee at the university's Shonan Campus. For final examinations, listening tests are administered for LS1 and LS2, and reading tests are administered for RW1 and RW2. Furthermore, the tests are administered to a different population of students each semester. At Shimizu Campus, the students are sorted into two different blocks according to their departments and study a specific compulsory course each semester. They are called Block 1 and Block 2 hereafter. Block 1 studied LS1 in the spring semester of 2014 and Block 2 studied it in the fall semester of that year. Furthermore, Block 1 studied RW1 in the fall after Block 2 did in the spring. In the second year, Block 1 studied LS2 in the fall of 2015 after Block 2 studied it in the spring. Block 1 studied RW2 in the spring and Block 2 in the fall. One may note

that there exists a one-year interval between LS1 and LS2 in Block 1 and between RW1 and RW2 in Block 2.

For the present study, the test scores of 416 students at Shimizu Campus were obtained and their scores in the first year and second year were comparatively studied. For this comparative analysis, the students were classified into four groups according to their responses to a questionnaire completed in April, 2014 when they entered the university. The questionnaire included five questions about English, three of which show relevance to learning motivation. These questions are mainly discussed in the present study. In this study, the chronological change in test scores is studied in terms of learning motivation. According to Isoda (2008), the goal of motivation studies is to reveal the factors affecting our actions. The current study investigates how motivation affects test scores.

Literature Review

The motivation for language learning has been discussed in terms of the socio-educational model, the self-determination theory, and the L2 motivational self-system (Dörnyei & Ryan, 2015).

The socio-educational model was a leading theory in the 1980s. In this model, the integrativeness, attitudes toward the learning situation, and instrumentality are the three major constructs enhancing motivation for learning (Gardner, 2010). Integrativeness reflects a learner's desire to be integrated to the speech community where their second language (L2) is spoken. In other words, it refers to a cooperative attitude toward a group of people speaking their L2. In Japan, however, English language is considered to be a foreign or international language rather than a L2. For this, Yashima (2013) uses a term such as 'international posture' referring to the willingness to associate with the international community. In the present study, integrativeness is interpreted to embrace the Japanese learner's desire to communicate with the members of the international community using English. Moreover, the attitudes toward the learning situation reflect external factors like teacher characteristics, one's classmates, course materials, and so forth. It involves everything existing outside of the learner's mind in the learning situation. Instrumentality is a supportive tool like a carrot and stick to engage learners.

In the self-determination theory, where learning motivation is studied according to an intrinsic-*vs.*-extrinsic dichotomy, intrinsic motivation is considered to be a factor making one a self-determined learner (Ryan & Deci, 2002). Interest in language learning and enjoyment derived from it reflect this intrinsic motivation. Therefore, the aforementioned integrativeness has relevance to this internal motivation. Extrinsic motivation corresponds to the aforementioned attitudes toward the learning situation and the instrumentality, which exist outside of the learner. Encouragement from the teacher and classmates may bring about such extrinsic motivation.

For the L2 motivational self-system, Dörnyei (2009) offers three motivational factors: They are the ideal L2 self, the ought-to L2 self, and the L2 learning experience. The ideal L2 self is the self-image of the learner in the future, which may reflect the goal of learning. With

such a self-image, the learners try to reduce the gap between their actual and their ideal images. The ought-to L2 self is an external factor by which learners try to satisfy the expectations of others. They try to reduce the gap between their current image and the image expected by others. The L2 learning experience is concerned with motives coming out from the learning situation. External factors like a teacher's impact and the curriculum fall into this category.

As for chronological change in the motivation for learning English, Johnson (2013) performed a qualitative study that consisted of interviews with Japanese students. The initial round of interviews was held when the students were freshmen at a Japanese university and the second round was held when they were sophomores. Among his participants, the number of motivated students shrank by half in the second year. A similar result was found by Hayashi (2011), who conducted quantitative research using a survey. Hayashi's Japanese university students were asked about their motives and interests in learning English in the past and the present. Their motivation was highest in the first year of junior high school when they started formal English learning, but it went down after the entrance to senior high school.¹⁾ Their motivation went up again in the third year of high school preceding university entrance examinations, and started to decline again by the third year of university. In short, the motivation at the second year of university was the lowest of all nine years ranging from the first year of junior high school to the third year of the university. These two studies analyzed the change in motivation over time, not in English scores. However, we may assume that the scores of the second year students will go down if motivation directly affects test scores. Therefore, to study the validity of such an assumption, the author studied the changes in scores, particularly the scores between the first year and the second year of university level English study. If Hayashi's results can be universally applied to students at this level of the study, the scores of the second year students will go down assuming motivation directly affects test scores.

Research Method

Participants

The target students in the present study belong to the Tokai University School of Marine Science and Technology, which is made up of six departments. They are the Department of Maritime Civilizations, the Department of Environmental and Societal Affairs, the Department of Marine and Earth Science, the Department of Fisheries, the Department of Marine Biology, and the Department of Navigation and Ocean Engineering. Although the name of the school gives the general impression that the students are interested in science, the students in the first two departments are also concerned with humanities studies. Thus, students with a wide variety of interests are enrolled in the school. However, there exists an imbalance in the rate of

1) The results from Q4 in the present study give a different impression from Hayashi (2011). Among those who showed hatred in Q1, 61.57% disliked English at a junior high school and 33.83% did so at a senior high school. More precisely, 40.55% disliked English in the first two years and 21.02% did so in the third year at a junior high school. At a high school, 28.42% disliked English in the first two years and 5.41% did so in the third year.

competition for entering departments, which causes a disparity in scholastic ability or English learning capacity of the students. For example, the students in the Department of Marine Biology enter with higher scholastic ability than the students in the Department of Navigation and Ocean Engineering.

For the purpose of the analysis, the data for the 126 students, who missed one or more of the tests, was deleted from 542 students, who entered this School of Marine Science and Technology in April of 2014. Thus, the data from 416 students was studied.

Data Collection

To create a database for the current study, an Excel file containing the results of a questionnaire administered to freshmen when they entered Tokai University in April, 2014 was obtained. On the spreadsheet, student ID numbers had been vertically entered in the leftmost cell. Beside each ID number, the multiple-choice numbers answered by the respondents had also been automatically entered by the questionnaire reading device. In the cells beside these numbers, the author entered every student's scores from the placement test and the final exams for LS1, LS2, RW1, and RW2. As a result, one can see the individual ID numbers, questionnaire answers, and test results from left to right. From top to bottom, the diversity in the individual results can be seen.

The Questionnaire

Staff in the Liberal Arts Education Center, which offers English courses along with general education courses such as mathematics, chemistry, physics, and so forth, wrote the questionnaire to investigate the freshmen students' attitudes toward learning these courses. Five questions about English were included in the questionnaire along with questions about mathematics, chemistry, physics, and so forth.

The following is an English translation of the five multiple-choice questions.²⁾

Q1. Do you like English?

1. Yes, I do. 2. Yes, I like it a little. 3. No, I hate it a little. 4. No, I hate it.

Q2. Do you have a desire to improve your English?

1. Yes, I do. 2. Yes, I have a little desire for the improvement. 3. I can't say either yes or no.
4. No, I don't. 5. No, not at all.

Q3. Do you think you need English in your future?

1. Yes, I do. 2. Yes, I think so to some extent. 3. I can't say either yes or no.
4. No, I don't. 5. No, not at all.

2) Neutral answer was not included in the choices of answer to Q1. The author is of opinion that neutral answer was not necessary because the students seemed to have known whether they liked English or not after their six-year study of English at their high schools. On the other hand, as the author explains later in the section for 'Correlation among answer types', Q2 and Q3 were concerned with uncertain future events. For such questions, neutral answer may have been necessary.

Q4. To those who answered 3 and 4 to Q1. When did you begin to have hatred for English?

1. At elementary school. 2. At the first or second year in junior high school.
3. At the third year in junior high school. 4. At the first or second year in senior high school.
5. At the third year in senior high school.

Q5. Which skill do you want to improve? Choose answer as many as you like.

1. Reading 2. Writing 3. Listening 4. Speaking

The first three questions are relevant to learning motivation and are discussed in the present study. For each item, multiple choice answers were arranged so they reflect a scale of motivation. The higher multiple-choice numbers indicated higher degrees of demotivation. Q1 measured the students' motivational force using a 4-point scale. Q2 and Q3 measured it with 5-point scale; however, because of the presence of the third answer, *I can't say either yes or no*. In the Japanese version of the questions, it showed a neutral feeling between yes and no. At any rate, the respondents who chose 1 and 2 were considered to be motivated while those who chose 3 and 4 for Q1, and those who chose 4 and 5 for Q2 and Q3 were considered to be demotivated.

These three questions seem to reflect what Gardner (2010) calls orientations, that construct learning motivation. As mentioned previously, the liking in Q1 and the desire in Q2 reflect internal factors constructing the motivation and the need in Q3 can be an external factor. If English study is required by someone, or it is required for other purposes such as employment, this need is considered to come from somewhere external.

Limitations

The choices written for Q4 and Q5 are different from the choices for Q1, Q2, and Q3 because they do not reflect a varying degree of motivational force. Therefore, they were considered out of the scope of analysis in the following section, where correlations between motivational force and the students' scores are studied. Q4 elicited merely the time when the students' dislike for English began and Q5 elicited a skill name. Furthermore, multiple responses to Q5 made it impossible to process the data by a one-to-one correspondence between an answer and a test score, which is explained below for the calculation of correlational coefficients. However, the results from these two questions are mentioned when they are relevant to the discussion. The results from Q4 have been briefly mentioned in the note on Hayashi (2011) in the literature review. Hayashi's result gave us the impression that his participants maintained high motivation in junior high school, but in the present study, more than half of the students who disliked English began to have dislike for English in junior high school. The results of Q5 are displayed in Table 9 to support the discussion on Table 8.

Data Analysis

The following section is made up of the analysis of the results of the questionnaire and the analysis of the test scores. To study the results of the questionnaire, the proportion of answer types to the questions above that were given to the student population was studied in terms of

percentage, and the correlation between motivational forces reflected by the answer types to the questions were calculated using the Pearson product-moment correlation formula. In short, the correlation among numbers answered to these questions by each individual on the Excel sheet was calculated.

For the analysis of test scores, the correlations between the answer types and test scores from the placement test as well as the four periodic tests were calculated using Pearson product-moment test: Correlation between the number answered on a questionnaire item and the test score of each individual was calculated. Test scores were further analyzed by sorting the students into sample groups according to an answer type on the questionnaire. For the placement test, average scores and standard deviations (*SD*) in each group were calculated using a single factor ANOVA. Between-group differences were assessed using the Tukey multiple comparison procedure. The periodic tests were analyzed with paired sample *t*-tests to assess the between-test difference in each group. Average scores from periodic tests were calculated with this procedure. For the assessment of between-group differences on each periodic test, the Tukey multiple comparison procedure was also used.

By computing correlational coefficients between the answer types and test scores, the author found that Q1 most evidently reflected the motivational factor effective in test scores. Moreover, by observing chronological changes in the students' scores by *t*-tests, the author investigated how long such a factor is influential on language learning.

Results and Discussion

Analysis of Answer Types to Questionnaire Items

Proportion of answer types in each question. The responses to the Q1 are summarized in Table 1. For the simple presentation of answer types, items chosen, are labelled on a scale of positive-*vs.*-negative dichotomy rather than by a wordy translation from Japanese.

Table 1. Proportion of Q1 Answer Types to the Student Population

Types of Response	Q1 (<i>N</i> = 416)
1. Positive	12.26% (51)
2. Less Positive	30.77% (128)
3. Less Negative	32.21% (134)
4. Negative	24.76% (103)

Here, the number of students who showed the lowest motivation on item 4 were double the number who showed the highest motivation on item 1. The total proportion of those who showed demotivation on items 3 and 4 was 56.97% (*n* = 237). The total proportion of those who did not clearly state their liking on items 2 and 3 was 62.98% (*n* = 262). In short, more than 50% expressed a dislike of English or some hesitation in showing their preference. It was already mentioned that Gardner's (2010) integrativeness is interpreted to be the factor causing the willingness to communicate with English speakers. Liking seems to enhance such a factor. For example, if a student likes English, we might assume he or she may show an interest

and try to be acculturated to an English-speaking community.

Table 2. Proportion of Q2 and Q3 Answer Types to the Student Population

Types of Response	Q2 (<i>N</i> = 416)	Q3 (<i>N</i> = 416)
1. Positive	59.62% (248)	53.61% (223)
2. Less Positive	34.38% (143)	36.54% (152)
3. Neutral	4.09% (17)	6.73% (28)
4. Less Negative	1.20% (5)	2.40% (10)
5. Negative	0.24% (1)	0.24% (1)
Nonresponses	0.48% (2)	0.48% (2)

Contrary to Q1, positive answers tended to be chosen for Q2 and Q3 in Table 2. From the most positive item 1 to the most negative item 5, the proportion of negative respondents decreased. For Q2, most of the students showed their desire to improve their English. The total proportion of those who showed such a desire by choosing items 1 and 2 was 93.99% (*n* = 391). For Q3, 90.14% (*n* = 375) showed their awareness of the future necessity for English.

Correlation among answer types. Table 3 displays the correlational coefficients between the item numbers chosen by the individuals for Q1, Q2 and Q3.

Table 3. Correlation Coefficient among Questionnaire Items

Questionnaire Items	Q2	Q3
Q1	.33	.29
Q2	N/A	.58

P < .05

Both Q1 and Q2 reflect the aforementioned internal factor but their interplay seems to be quite weak. On the other hand, Q2 and Q3 show some interplay although the former reflects an internal factor and the latter reflects an external one. In the most plausible interpretation, both Q2 and Q3 were concerned with something uncertain for the students when they were surveyed. For Q2, even if they aspired to improve their English, they did not know whether they could achieve it or not in the future. For Q3, even if they were aware of the necessity of English, the freshmen did not know what needs they were going to use it for in the future. Only Q1 elicited an answer that was clear at the time of the survey. They knew whether they liked English or not because they had already learnt English for six years after entering junior high school. Indeed, Q2 and Q3 seem to be relevant to Dörnyei's (2009) ideal L2 self, a self-image of the learner in the future.

The following cross-tabulation tables further explain the interplays among answer types. Hereafter, the students are classified into four groups according to their answer types for Q1. Q2 and Q3 do not classify the students this way because the majority of the students tended to choose positive answers. In Table 4, group numbers represent the item number chosen by the students. The following cross-tabulations further explain the tendency that has been discussed

in this section.

In Table 4, the group number increases with the students who dislike English. In all of the groups, the proportion of students who gave the most positive answer is the largest. In other words, regardless of the degree of liking, the students tended to show a desire for improving their English. Even in the most demotivated (Group 4), the total proportion of those who chose positive and less positive items is 86.41% ($n = 89$). Interestingly, as the degree of liking gets lower, the proportion for the most positive item gets halved from 94.12% to 44.66%. Only here, some interplay between the aspiration and the liking can be surmised. The more students like English, the more aspiration they have.

Table 4. Proportions of Q2 Answer Types to Group Populations

Answer Types to Q2	Group 1 ($n = 51$)	Group 2 ($n = 128$)	Group 3 ($n = 134$)	Group 4 ($n = 103$)	Total ($N = 416$)
1. Positive	94.12% (48)	71.09% (91)	47.01% (63)	44.66% (46)	59.62% (248)
2. Less Positive	3.92% (2)	25.00% (32)	49.25% (66)	41.75% (43)	34.38% (143)
3. Neutral	0%	3.13% (4)	2.99% (4)	8.74% (9)	4.09% (17)
4. Less Negative	1.92% (1)	0%	0%	3.88% (4)	1.20% (5)
5. Negative	0%	0%	0%	0.97% (1)	0.24% (1)
Nonresponses	0%	0.78% (1)	0.75% (1)	0%	0.48% (2)

Table 5. Proportions of Q3 Answer Types to Group Populations

Answer Types to Q3	Group 1 ($n = 51$)	Group 2 ($n = 128$)	Group 3 ($n = 134$)	Group 4 ($n = 103$)	Total ($N = 416$)
1. Positive	88.24% (45)	61.72% (79)	42.51% (57)	40.78% (42)	53.61% (223)
2. Less Positive	7.84% (4)	30.47% (39)	50.75% (68)	39.81% (41)	36.54% (152)
3. Neutral	0%	7.81% (10)	5.22% (7)	10.68% (11)	6.73% (28)
4. Less Negative	0%	0%	1.49% (2)	7.77% (8)	2.40% (10)
5. Negative	1.96% (1)	0%	0%	0%	0.24% (1)
Nonresponses	1.96% (1)	0%	0%	0.97% (1)	0.48% (2)

Similar patterns are found in Table 5, which shows a cross-tabulation with the awareness of English needs. Here again, in all of the groups, the students tended to show such awareness. As mentioned before, both Q2 and Q3 seem to have been concerned with future events of which the students were uncertain, and for both questions, the most positive answer was chosen by a majority of students in Group 1, which was the most motivated group. Here, their motivation seems to bring about some positive prospect for upcoming events.

In sum, factors reflected by Q2 and Q3 were influential on the majority of students. The motivational force of Groups 1 and 2 may have been enhanced because of these factors. Even Groups 3 and 4 disliking English have a potential to be influenced by these factors. Fortunately, they were not totally demotivated.

The Analysis of Test Scores

Correlation between answer types and test scores. In the previous section, the author found the liking for English most distinctly reflecting individual differences. In this section, it most strongly affects the scores.

Table 6. Correlation Coefficients between Questionnaire Items and Test Scores³⁾

Questionnaire Items	Placement Test	LS 1	LS 2	RW 1	RW 2
Q1	-.37	-.27	-.34	-.34	-.33
Q2	-.19	-.21	-.22	-.20	-.17
Q3	-.16	-.17	-.14	-.15	-.11

$P < .05$

Table 6 displays the correlation coefficients between the degree of motivational force reflected by the multiple-choice numbers and the test scores. Again, as the number gets larger, it reflects a weaker motivational force. If a stronger force is assumed to yield a higher score, one can predict a negative correlation, which conforms to the results presented here. A relatively strong correlation is found in Q1 reflecting the students' liking of English. For all of the tests, Q3 about the future needs of English; reflects the least influential factor. Q2 about the students' aspiration gets into the neutral position on all of the tests. In short, a pattern like $Q1 > Q2 > Q3$ is interestingly consistent throughout the tests. Indeed, in Naito and Tachibana (2008), senior high school students in Japan who liked English sustained motivation for a longer period and their self-esteem about their proficiency was higher than those who disliked English. On the other hand, Tsumura (2010) mentions that a sense of dislike results from demotivation. Here, we may assume that those who showed dislike had already been demotivated. In Kikuchi (2015), disinterest with English is one of demotivating factors. Although he does not mention a causal relationship between dislike and disinterest, we can speculate that students disliking English hardly have an interest in it.

The placement test. Every year, a placement test is administered to all incoming students at Tokai University. It is used for sorting the students into three proficiency levels for compulsory English courses. The placement test is administered at the time of their entrance, and the time span between the placement test and the aforementioned questionnaire survey at Shimizu campus is very short. Every year, students take the placement test and answer the questionnaire survey on the same day in the same classroom.

Average scores and *SD* in the four groups were computed by a single factor ANOVA. Out of the maximum 100 points on the placement test, the average score decreased as the motivational force for liking minimized. For example, 55.31 in Group 1 > 47.09 in Group 2 > 41.35 in Group 3 > 38.37 in Group 4. However, Group 1 had the widest range of scores ($SD = 260.62$) and it included a student who scored 28 which was 10 points lower than the average

3) In Q2 and Q3, two students did not answer. To compute correlational coefficients, the data for these students was excluded.

score of the least motivated Group 4. In short, the average score of the most motivated Group 1 was the highest but their strong motivational force did not necessarily bring about an absolutely high score. Some students seem to have answered the questionnaire thinking about English outside of the language learning context. If they were fond of English in American pop culture such as movies, music, or comic books, such fondness did not directly bring about good test scores. At any rate, the majority of Group 1 seems to have considered English to be English learning, which yielded the highest average score among the four groups.

Thus, the scores ranged from 28 to 87 ($SD = 260.62$) in Group 1, from 23 to 80 ($SD = 191.61$) in Group 2, from 21 to 78 ($SD = 153.43$) in Group 3, and from 20 to 65 ($SD = 112.27$) in Group 4. The diversity of the scores was minimized with the students' dislike of English.

The overlapping of scores between groups blurred the group differences. To eliminate such blur, the between-group differences in those average scores were assessed using the Tukey multiple comparison procedure. The discrepancy in the average scores between Groups 1 and 2 was 8.22, and that between Groups 2 and 3 was 5.74. These two discrepancies indicated significant differences ($p < .01$). The discrepancy between Groups 3 and 4, however, was only 2.98 ($p = .48$), which did not show significance. Thus, the discrepancy was minimized as the motivation weakened. In other words, the two motivated groups showed a significant difference from the less motivated Group 3 and 4, and among the motivated groups, the most motivated Group 1 still showed its significant difference from Group 2. In the following sections, the test scores taken over two years after this placement test will be discussed.

Periodic tests. In this section, the test results of the aforementioned four compulsory courses, LS1, LS2, RW1, and RW2, are studied. At the end of each semester, the students took a final examination in their compulsory English course. As mentioned previously, the students studied LS1 and RW1 in 2014 and LS2 and RW2 in 2015. For every course, the evaluation was based on an objective test and a subjective test. For LS1 and LS2, students took a common listening comprehension test and a speaking test and for RW1 and RW2, they took a common reading comprehension test and a writing test. For this study, the results were collected from the objective tests, which were the final listening tests in two LS classes and those for reading tests in two RW classes. The same tests were administered at all of the schools following the syllabi written at Tokai University's Shonan Campus. The maximum points for the final reading tests for RW1 were 40 while those for the other courses were 50. For further comparison RW1 scores on the 40-point scale were converted to those on the 50-point scale.

Overall, all of the groups showed improvements in the second year. From LS1 to LS2, the average score increased from 32.55 to 35.55 in Group 1, from 30.56 to 32.55 in Group 2, from 27.88 to 29.26 in Group 3, and from 27.45 to 28.45 in Group 4. Interestingly, the in-group discrepancy of the average score was minimized as the liking for English diminishes such as 3.00 (Group 1) > 1.99 (Group 2) > 1.38 (Group 3) > 1.00 (Group 4). On the other hand, a different pattern was shown by the score change from RW1 to RW2. The average score increased from 34.09 to 35.41 in Group 1, from 28.82 to 30.39 in Group 2, from 26.07 to 27.54 in Group 3, and from 24.34 to 25.71 in Group 4. Here, the in-group discrepancies became larger in the neutral groups such as 1.57 (Group 2) > 1.47 (Group 3) > 1.37 (Group 4) > 1.32 (Group

1). Group 1's improvement in RW2 was not as evident as that in LS2 although they scored higher in both RWs.

Students have shown a decline in motivation in the second year after entering university (Hayashi, 2011; Johnson, 2013). From this, assuming the effect of motivation on test scores, one could have speculated about the drop in scores even among the highly motivated Groups 1 and 2 in this paper as well. In the present study, however, many individuals seem to have maintained the motivational factor of liking in their second year. Nakata (2013) mentions that liking ignites motivation but it may not be maintained over time. The students in the present study, however, seem to have maintained this factor for two years.

Another factor might have taken the place of this factor of liking. Johnson (2013) mentions that future plans were major motivator among the second year students in his study. The number of his students concerned with their future careers tripled in the second year. In Table 5, we saw that the majority of students showed their awareness of future needs for using English. Even among Groups 3 and 4, nearly half of the students were aware of such needs, which means that the students disliking English have a potential to engage in study that is influenced by this factor. In short, as mentioned earlier, the liking factor seemed to have directly affected the scores, which indicated that the students achieved a higher score as the motivational force from liking increased. On the other hand, the awareness of perceived future needs is thought to have helped the students sustain or improve their proficiency especially among those in Groups 3 and 4.

Between group differences in average scores. Hereafter, the test results in each semester will be analyzed because the test was administered to a different population each semester, which brought about different results. In short, there existed discrepancies in average scores between Blocks 1 and 2.

In every group, the average scores for the second-year LS2 and RW2 courses were higher than their first-year counterparts. In Table 7, however, one may note a between-block imbalance in the proportions of group populations to the block populations. The proportion of Group 1 to Block 1 is 15.18% while it is only 9.78% in Block 2. In Block 1, the total of Groups 3 and 4 is 53.40% while its counterpart in Block 2 is 60.00%. In short, Block 2 showed less motivational force than Block 1. Blocks 1 and 2 were made up of students from different departments, which seems to have brought about that imbalance. As mentioned earlier, the students' academic interests vary from department to department. Their learning capacity for English also varies.⁴⁾ Such between-block differences should be noted hereafter.

4) It is important for the author to refrain from listing the names of the departments belonging to each block. A definite statement about the department names in Block 2 may offend the students and staff in these departments. As for Block 1, however, it may be inoffensive to state that the students in the most competitive department were studying there.

Table 7. Average Test Scores for the Four Groups

Blocks	Groups	LS1	LS2	RW1	RW2
Block 1 (<i>N</i> = 191)	Group 1 (<i>n</i> = 29)	33.38	36.72	34.27	36.55
	Group 2 (<i>n</i> = 60)	32.20	33.58	30.50	33.25
	Group 3 (<i>n</i> = 54)	29.46	30.02	26.41	29.41
	Group 4 (<i>n</i> = 48)	28.29	28.69	25.34	26.50
Block 2 (<i>N</i> = 225)	Group 1 (<i>n</i> = 22)	31.45	34.00	33.86	33.91
	Group 2 (<i>n</i> = 68)	29.12	31.63	27.33	27.87
	Group 3 (<i>n</i> = 80)	26.81	28.75	25.84	26.29
	Group 4 (<i>n</i> = 55)	26.71	28.24	23.48	25.02

In the placement test, the Tukey multiple comparison procedure indicated significant differences between Groups 1, 2, and 3. In the case of the periodic tests, significant differences were found mainly between the motivated Group 2 and the less motivated Group 3. In Block 1, for RW1 and LS2, the discrepancies in the average scores between these two groups were 4.09 and 3.56, both of which indicated significance ($p < .05$). In Block 2, for LS2 only, the discrepancy between Groups 2 and 3 was 2.88, which was also considered to be significant ($p < .05$). In short, for each LS2 in Blocks 1 and 2, the gap between Group 2 and 3 seems to suggest the assimilation between motivated Groups 1 and 2 as well as that between less motivated Groups 3 and 4 through the course of study. Moreover in Block 2, the difference between Groups 1 and 2 was also found to be significant for RW1 and RW2 ($p < .01$). The discrepancies between these two motivated groups are 6.53 ($p = .006$) for RW1 and 6.04 ($p = .009$) for RW2. Here, the most superior Group 1 seems to have kept their rival Group 2 off until the end of the second year.

In Block 2, however, the following unfavorable phenomena seem to have underlain those significances. The LS scores from Groups 3 and 4 shifted in the same manner under the average scores from the whole student populations and end in the similarly low LS2 scores (Figure 2), which give the impression that by demonstrating the between-group resemblance, they were in the same low level from the outset and could not show any improvement in the second year. Moreover, in Block 2, the RW1 score was almost the same as RW2 score in Group 1 as well as in Group 2 (Table 7). They showed the between-test similarity by repeating their first score on the second test, although their scores for the both tests have shown the between-group difference by the Tukey multiple comparison procedure. Without showing any improvement, they seem to have stayed in the same group levels, which is discussed more in Table 8.

Dynamics in score-shifting patterns. For a more comprehensive presentation on the aforementioned between-block difference, the shift patterns of LS scores are pictured for each block in Figures 1 and 2. Such between-block difference is more evidently displayed by introducing the average scores from the whole Tokai student body, which were reported by the Shonan Campus.⁵⁾ One should note that the positions of Groups 3 and 4 against the whole body of the Tokai students are different in these two figures.

5) The mean points from the whole student body were 28.7 for LS1 and 28.0 for LS2 in Figure 1. In Figure 2, they were 27.0 for LS1 and 29.7 for LS2.

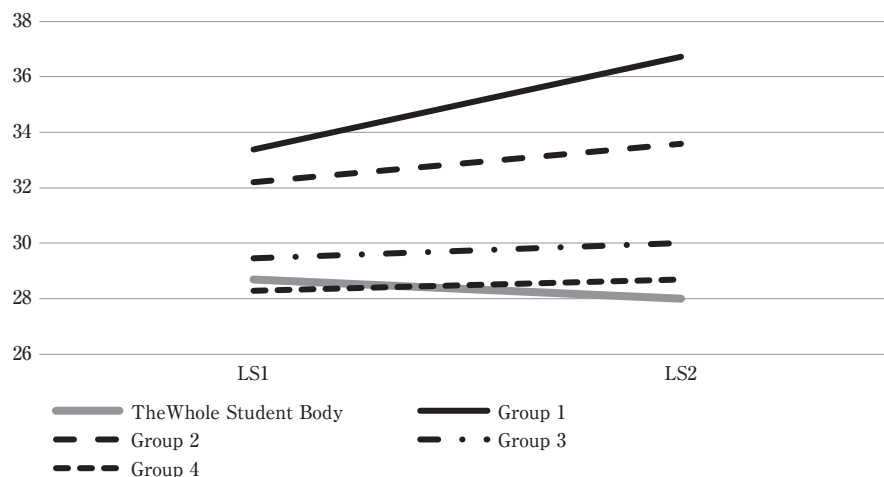


Figure 1. The Shift of LS Mean Points in Block 1

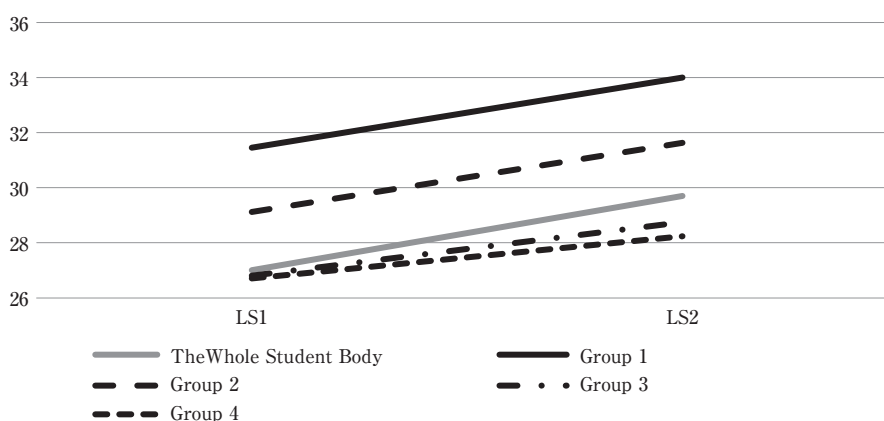


Figure 2. The Shift of LS Mean Points in Block 2

For Block 1 in Figure 1, the aforementioned Tukey multiple comparison procedure indicated a gap between Groups 2 and 3. This gap, however, did not discriminate Group 3 from the superior Group 2. Scores from every group in Block 1 increased and surpassed the whole body of students in LS2, while the average score of the whole student body declined. In Block 1, the proportion of the motivated Group 1 was already mentioned to be larger. The existence of such motivated students seems to have given some favorable impact to those in the less motivated Groups 3 and 4. Group 1 seems to have driven the less motivated students to work hard.

On the other hand, in Figure 2 for Block 2, Groups 3 and 4 did not show an achievement like their Block 1 counterparts did. Here, the line showing the shift by the whole student body seems to be a borderline that separates the two motivated groups from the two less motivated groups. Indeed, from the gap indicated in the Tukey multiple comparison procedure, the less

motivated Group 3 was discriminated from the motivated Group 2 in LS2. The two motivated groups demonstrate a shift far above the borderline, but the less motivated groups always stay under that line. The initial average scores of Groups 3 and 4 were not significantly different from those of the whole student population but in LS2, they were surpassed by the whole student population. The students in the present study were classified into the four groups according to their motivational levels based on the liking factor. However, they took different positions in the two blocks. In short, a particular motivational level did not yield absolute score value.

Between-test difference by t-test. As for the RW scores in Block 2 in Table 7, one could not objectively understand the improvement by reading small numbers from the 50-point scale. For this, a paired sample t-test was employed to assess the discrepancies between the two tests.

Table 8. T-Test Results for Each Group

Blocks	Groups	LS	RW
Block 1	Group 1	$p = .00^*, t = -5.15, df = 28$	$p = .01^*, t = -3.03, df = 28$
	Group 2	$p = .03^*, t = -2.26, df = 59$	$p = .00^*, t = -3.82, df = 59$
	Group 3	$p = .47, t = -0.73, df = 53$	$p = .00^*, t = -4.11, df = 53$
	Group 4	$p = .58, t = -0.56, df = 47$	$p = .16, t = -1.42, df = 47$
Block 2	Group 1	$p = .00^*, t = -3.24, df = 21$	$p = .96, t = -0.05, df = 21$
	Group 2	$p = .00^*, t = -4.57, df = 67$	$p = .44, t = -0.76, df = 67$
	Group 3	$p = .00^*, t = -3.76, df = 79$	$p = .42, t = -0.80, df = 79$
	Group 4	$p = .02^*, t = -2.24, df = 54$	$p = .05, t = -2.02, df = 54$

*Significant at .05 level

Key. p = Two-Tailed P Value t = t value df = degree of freedom

Interestingly, in Block 2, no groups showed a significant change for RW, while in Block 1, Groups 1, 2, and 3 did. On the other hand, every group in Block 2 showed significance for LS, while in Block 1, only Groups 1 and 2 did. In short, irrespective of liking for English, the students in Block 2 made some effort for LS while they did not for RW. Meanwhile in Block 1, the motivated groups showed good results either in LS or RW.

Q5 in the aforementioned questionnaire asked about the skills that the students wanted to improve, and here in Table 9, the frequency of their multiple answers are summarized. In both blocks, the students tended to show interest in oral communication skills. Although Groups 1 and 2 in Block 1 did not show interests in literacy skills as much as they did in oral communication skills, they significantly improved their reading skills for RW as well as their listening skills for LS. They seem to have been interested in English irrespective of their skills.

Table 9. Frequency of Favored Skills for Each Group⁶⁾

Blocks	Groups	Listening	Speaking	Reading	Writing
Block 1	Group 1	72.41% (21)	89.66% (26)	48.28% (14)	41.38% (12)
	Group 2	61.67% (37)	80.00% (48)	46.67% (28)	40.00% (24)
	Group 3	64.81% (35)	85.19% (46)	38.89% (21)	31.48% (17)
	Group 4	43.75% (21)	72.92% (35)	54.17% (26)	43.75% (21)
Block 2	Group 1	71.43% (15)	90.48% (19)	52.38% (11)	57.14% (12)
	Group 2	51.47% (35)	75.00% (51)	48.53% (33)	41.18% (28)
	Group 3	50.00% (40)	72.50% (58)	51.25% (41)	40.00% (32)
	Group 4	67.27% (37)	70.91% (39)	58.18% (32)	45.45% (25)

Probably, the internal factor, the liking of English, strongly affected the learners in Block 1 more than those in Block 2. This factor seems to have made them like English genuinely in the course of their two years of study and therefore, without being selective, they studied all of the English skills. According to Ryan and Deci (2002), intrinsic motivation makes one a self-determined learner. That also seems to be why the average scores of the motivated groups in Block 1 were always higher than those of their counterparts in Block 2. Furthermore, even those in the less motivated Group 3 in Block 1 showed significant change in RW, although their preference for RW skills were the lowest in Table 9. This might be because of some changes in motivational factors in the second year, which cannot be proven with the present study based on the one single survey in the first year. Probably, the aforementioned awareness of future English needs has been enhanced in the second year and in turn, influenced their RW study.

On the other hand, the students in Block 2 showed significant improvement in LS but not in RW in spite of their initial interest in literacy skills, which was more conspicuous than among the students in Block 1 (Table 9). It gives impression that they gradually disliked RW through the course of two year study and instead, became more inclined to study LS. Such partiality may reflect the influence from an external factor. Indeed, Dörnyei (2009) offers curriculum as such an external factor. Course content strongly associated with skills also affects the learner's motivation. In other words, literacy skills may not have satisfied their future needs. In Block 2, however, even those in less motivated Group 3 showed significant improvement in LS, which may have been affected by such perceived needs.

Conclusion

Overall, test scores increased as the students gained a higher degree of motivation. Moreover, those who possessed high motivation in Block 1 showed a chronological improvement in their test scores irrespective of the skills tested. For such motivation yielding good results, the liking of English was found to be the most fundamental and influential factor.

6) Table 9 summarized the responses to Q5, which allowed multiple response. Therefore, it displays frequencies not proportions. The group populations are the same as in Table 7 except for Group 1 in Block 2. There, one student did not answer.

Especially among the groups who liked English, the students' motivational force seems to have been enhanced by the desire to improve their English and the awareness of its future necessity. In fact, future awareness seems to have underlain improvement in all groups. This factor, however, seems to have negatively affected the RW scores in Block 2. Here, RW study does not seem to have satisfied their needs in the second year, which can be interpreted that the motivational force from the internal factor of liking seems to have been weakened by the external factor of course contents in the second year. Unfortunately, this is merely an assumption because this study, which is based on the first-year survey, could not be related to any aspect of motivational change in the second year. Indeed, the motivational factor may change over the process of long-term English study. The factor of liking was found to be effective for the students in this study who were around the age of 18. As they get older, they might be influenced by other factors. In other words, influential factors might vary according to the age of students, which must be further investigated.

Moreover, eliminating demotivational factors is also an important issue. The RW course seems to have demotivated the learners in Block 2, but this course was set up to provide well-balanced English education. If the materials for the RW course in the second year do not satisfy students' perceived future needs, they should be changed to materials that show strong relevance to the students' possible future careers. It is important for educators to find such motivational tools when they observe motivational changes among their students.

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