Relationship between attitudes and gain scores on TOEIC-based proficiency test

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Kinki University

Reference Data:

With increasing demands for a better command of English, especially in business, there has been a recent trend among universities to use the TOEIC test as a means to measure students’ English ability. The university where this study was carried out is no exception. In this university, with improving the students’ TOEIC scores as a major goal, at the time when this study was carried out, one first year required English class was primarily devoted to teaching TOEIC. Despite that, some students did not show any gain while others exhibited significant improvement. This small-scale pilot study attempted to explore what factors are attributable to such individual differences. More specifically, this study investigated whether any motivational and attitudinal aspects can possibly predict students’ gain scores on TOEIC-based proficiency tests.

In spite of the fact that many universities and teachers spend a lot of resources getting their students better prepared for TOEIC, it seems to be always the case that some students show significant improvement while others don’t exhibit any gain. Such differences can be explained by various factors including their proficiency and aptitude. However, it can also be assumed that motivation and attitudes are important factors which also play a role.

In the field of SLA, there is no shortage of research that attempts to determine what constitutes second language learning motivation, and how it is related to achievement (e.g., Clement, Dörnyei & Noels,
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However, the amount of research looking at the relationship between specific aspects of motivation and actual performance on widely used standardized tests such as TOEIC has been rather meagre compared to the entire body of motivational research. Thus, this study attempted to investigate how motivation and attitudes are related to gain scores on TOEIC-based proficiency tests.

In attempts to define motivation to learn English and obtain information regarding how motivation is related to students’ test performance, one of the most well-known psychological models of motivation, expectancy-value theory (Eccles, 1983; Eccles & Wigfield, 1995; Wigfield, 1994; Wigfield & Eccles, 1992; Wigfield, Eccles, & Pintrich, 1996) was used as the main framework of the study. According to Eccles and Wigfield (1995), achievement behavior is predicted by two constructs: expectancy for success in a given task and the value the individual associates with success in that task. Expectancy in this model refers to students’ expectancy for success on a certain task, which in turn can be predicted by their perceptions of task difficulty and their expectation of their ability to perform that task. On the other hand, value beliefs consist of four components: attainment value, intrinsic value, extrinsic utility value, and cost. Attainment value denotes the individual’s perceived importance of success in a given task with reference to their perception of how significant a task is to their self-schema or identity. Intrinsic value refers to the enjoyment that task engagement brings about whereas extrinsic utility value refers to the usefulness of the task in terms of an individual’s future goals. The last component, cost, signifies individuals’ perceived negative consequences of engaging in the task.

Although the present study referred to the expectancy-value theory as the basis of the design, it also incorporated two of the sub-components in Gardner’s socio-educational model of motivation. The two that are included are attitudes toward cultures and people of English speaking communities, a sub-component of integrativeness, and effort, a sub-component of motivation in his model. These two aspects were included because they are the constructs of integrativeness and motivation that Gardner and his associates (Gardner, 1985, 2001; Gliksman, Gardner, & Smythe, 1982; Gardner & Smythe, 1975) repeatedly found important in second language learning, though they are not considered by expectancy-value theory.

The research questions and hypotheses can be summed up as follows:

Research questions
1. What constitutes English learning motivation and attitudes among a sample of Japanese university students?
2. Is there any relationship between motivational and attitudinal constructs and gain scores on TOEIC-based proficiency tests?

Research hypotheses
1. The motivational aspects mentioned above will be identified as distinct constructs.
2. All of these motivational constructs will be related to students’ gain scores.

Methods

Participants
The participants in the study were 97 first-year university students in three different required English classes taught by the researcher. They were all non-English majors, and placed in upper-intermediate classes in the institute. In other words, according to their performance on the placement test, their English proficiency was not significantly different. The classes met twice a week, and a large portion of the class hour was devoted to preparing for the TOEIC test.

Procedure
The participants took two equivalent forms of the TOEIC-based proficiency test as a pre-test in April and as a post-test in October. Both forms have 50 questions, which is a quarter of the length of an actual TOEIC test. The correlation between the two forms is significant at the .01 level. The participants also took a motivation-attitude questionnaire two weeks prior to the post-test.

Motivation questionnaire
The questionnaire, consisting of 34 seven-point Likert scale items, was developed and administered in Japanese (See Appendix 1 for the details of the questionnaire and Appendix 2 for its English translation). Of all the items, 29 items were written referring mainly to the expectancy-value theory and partly to Gardner’s socio-educational model. To be specific, the constructs in this questionnaire include expectancy for success in learning English, attainment value, intrinsic value, extrinsic utility value, and cost of learning English taken from expectancy-value theory as well as Gardner’s concepts of attitudes toward cultures and people of English speaking communities, and effort. Furthermore, five TOEIC related items were added since one of the purposes of this study was to investigate the students’ attitude toward TOEIC. Cronbach’s alpha reliability was .94.

Results

Descriptive statistics for the TOEIC-based proficiency tests
Table 1 shows the means and standard deviations of the pre-test, post-test, and gain scores. Both tests had 50 questions and one point was assigned to each question. Considering the total score was 50, the mean scores of 23 and 28 for pre- and post-tests respectively indicate that the tests were rather difficult for the participants. However, this was unavoidable as the difficulty level of the tests was supposed to correspond to the difficulty level of a real TOEIC test. With a six month-interval, most students showed positive gains with a mean of 6.50. The descriptive data for the tests implies normal distribution of the data, which allowed further statistical analysis.
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Table 1. Descriptive statistics for the TOEIC-based proficiency tests

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>96</td>
<td>13.00</td>
<td>33.00</td>
<td>22.85</td>
<td>.53</td>
<td>5.10</td>
</tr>
<tr>
<td>Post-test</td>
<td>96</td>
<td>17.00</td>
<td>42.00</td>
<td>28.40</td>
<td>.65</td>
<td>6.34</td>
</tr>
<tr>
<td>Gain</td>
<td></td>
<td>-9.00</td>
<td>37.00</td>
<td>6.50</td>
<td>.83</td>
<td>8.18</td>
</tr>
</tbody>
</table>

**Motivational Factors**

In order to determine the interrelationship among the questionnaire items, a principal components analysis was performed. The number of factors to be extracted was based on the following criteria:

1. Minimum eigenvalues of 1.0
2. Each factor contains individual items with a minimum loading of .32. (Tabachnick & Fidell, 1996)
3. Eigenvalues appear before the decrease of eigenvalues level off on the scree plot.

To determine the best items for each of the motivational sub-components, any items which did not load on any factors at >.45 were eliminated (items 9, 24, 30, 32 and 33). After varimax rotation, a four-factor solution was chosen, which accounted for 64.45% of the total variance (See Table 2). After the items mentioned above were eliminated, the reliability of the questionnaire using Cronbach’s alpha was .94.

Table 2. Principal components analysis summary: Eigenvalues and percent of variance explained

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Var</th>
<th>Cum Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes twrd target group</td>
<td>11.19</td>
<td>38.60</td>
<td>38.60</td>
</tr>
<tr>
<td>Intrinsic value</td>
<td>3.22</td>
<td>11.11</td>
<td>49.71</td>
</tr>
<tr>
<td>Attainment value</td>
<td>2.25</td>
<td>7.77</td>
<td>57.48</td>
</tr>
<tr>
<td>Attitudes twrd TOEIC</td>
<td>2.02</td>
<td>6.98</td>
<td>64.45</td>
</tr>
</tbody>
</table>

Table 3. Principal components analysis summary: Factor loadings and communalities

<table>
<thead>
<tr>
<th>Factors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>h2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Attitudes toward Target Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I am interested in American lifestyles and cultures.</td>
<td>0.81</td>
<td>0.24</td>
<td>0.16</td>
<td>0.10</td>
<td>0.74</td>
</tr>
<tr>
<td>4. I am interested in British lifestyles and cultures.</td>
<td>0.75</td>
<td>0.28</td>
<td>0.19</td>
<td>0.07</td>
<td>0.69</td>
</tr>
<tr>
<td>5. I am interested in lives and cultures of other English speaking countries.</td>
<td>0.80</td>
<td>0.31</td>
<td>0.17</td>
<td>0.11</td>
<td>0.77</td>
</tr>
<tr>
<td>13. I would like to make American friends.</td>
<td>0.91</td>
<td>0.09</td>
<td>0.14</td>
<td>0.03</td>
<td>0.86</td>
</tr>
<tr>
<td>15. I would like to make British friends.</td>
<td>0.91</td>
<td>0.14</td>
<td>0.10</td>
<td>0.02</td>
<td>0.86</td>
</tr>
<tr>
<td>16. I would like to communicate with people in other English speaking countries.</td>
<td>0.90</td>
<td>0.14</td>
<td>0.17</td>
<td>0.06</td>
<td>0.86</td>
</tr>
<tr>
<td>26. I would like to use the English I studied when I travel overseas.</td>
<td>0.75</td>
<td>0.12</td>
<td>0.39</td>
<td>-0.01</td>
<td>0.73</td>
</tr>
<tr>
<td>31. By studying English, I hope to be able to understand movies in English.</td>
<td>0.55</td>
<td>0.16</td>
<td>0.44</td>
<td>0.17</td>
<td>0.54</td>
</tr>
<tr>
<td>25. I am studying English because I would like to live abroad in the future.</td>
<td>0.63</td>
<td>0.20</td>
<td>0.19</td>
<td>-0.09</td>
<td>0.48</td>
</tr>
<tr>
<td>Factor 2: Intrinsic Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I am good at English.</td>
<td>0.17</td>
<td>0.81</td>
<td>0.04</td>
<td>0.12</td>
<td>0.70</td>
</tr>
<tr>
<td>6. I like studying English.</td>
<td>0.25</td>
<td>0.71</td>
<td>0.35</td>
<td>0.03</td>
<td>0.68</td>
</tr>
<tr>
<td>10. I am studying English merely because it is a required subject.</td>
<td>0.16</td>
<td>0.49</td>
<td>0.18</td>
<td>0.17</td>
<td>0.32</td>
</tr>
<tr>
<td>12. English is one of my weak subjects.</td>
<td>0.19</td>
<td>0.68</td>
<td>0.02</td>
<td>0.25</td>
<td>0.55</td>
</tr>
</tbody>
</table>
Despite the small sample size, a surprisingly clear structure was achieved with all items loading over .55. More specifically, by looking at each factor, one can notice that Factor 1 is quite unambiguous since almost all of the items that loaded on this factor are concerned with students’ attitudes toward cultures and people of English speaking communities. Thus, Factor 1 is referred to as Attitudes toward Target Groups. As opposed to Factor 1, Factor 2 is less straightforward. According to the expectancy-value theory, expectancy for success and intrinsic value are independent constructs; however, items predicted to be indicative of expectancy for success, and intrinsic value loaded together on Factor 2. However, most of the items seem to be an indicator of how much students enjoy studying English, Factor 2 can be best described as Intrinsic Value. Factor 3 and 4 are both clear-cut as the former was predominated by students’ perception of importance of learning English whereas the latter gained loadings from TOEIC related items. Thus Factor 3 is labelled Attainment Value and Factor 4 is defined as Attitudes toward the TOEIC test.

Table 4 shows the mean scores of the questionnaire items arranged according to the factors on which they loaded. By closely examining the mean score of each item, it seems that we can discern a general motivational trend among the participants. The trend might be summarized as follows:

1. The mean scores of the items on Factor 1 are all above 4 (neither agree or disagree), which may indicate that the students have somewhat positive attitudes toward target language cultures and people.

2. The mean scores of the items on Factor 2 show that students may not have confidence in their English ability, or enjoy studying English very much.

3. The mean scores of the items concerned with students’ perceived importance of learning English are all above
5. This might imply that the students think that learning English is important to some extent.

4. The mean scores of the items on Factor 4 clearly show the students’ desire to get a good score on TOEIC and their belief that getting a good TOEIC score may help find a good job.

Similar trends, namely positive attitudes toward the target group, low expectancy and intrinsic value, and high attainment value, were consistently found in previous studies (Mori, 2003, 2004; Mori & Gobel, 2002, 2005, 2006).

Table 4. Items arranged according to factors with means

<table>
<thead>
<tr>
<th>Factor 1: Attitudes toward Target Groups</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I am interested in American lifestyles and cultures.</td>
<td>4.20</td>
</tr>
<tr>
<td>4. I am interested in British lifestyles and cultures.</td>
<td>4.41</td>
</tr>
<tr>
<td>5. I am interested in lives and cultures of other English speaking countries.</td>
<td>4.20</td>
</tr>
<tr>
<td>13. I would like to make American friends</td>
<td>4.31</td>
</tr>
<tr>
<td>15. I would like to make British friends</td>
<td>4.34</td>
</tr>
<tr>
<td>16. I would like to communicate with people in other English speaking countries.</td>
<td>4.29</td>
</tr>
<tr>
<td>26. I would like to use the English I studied when I travel overseas.</td>
<td>4.74</td>
</tr>
<tr>
<td>31. By studying English, I hope to be able to understand movies in English.</td>
<td>4.86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 2: Intrinsic Value</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am good at English.</td>
<td>3.26</td>
</tr>
<tr>
<td>6. I like studying English.</td>
<td>3.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 3: Attainment Value</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Studying English is important because it will be conducive to my general education.</td>
<td>5.25</td>
</tr>
<tr>
<td>8. Studying English is useful.</td>
<td>4.93</td>
</tr>
<tr>
<td>11. I try to study hard in English classes.</td>
<td>4.91</td>
</tr>
<tr>
<td>19. Studying English is important because it will broaden my view.</td>
<td>5.19</td>
</tr>
<tr>
<td>23. Studying English is important because it will make me a more knowledgeable person.</td>
<td>5.07</td>
</tr>
<tr>
<td>34. Studying English is a waste of time.</td>
<td>2.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 4: Attitudes toward TOEIC</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I would like to get a good score on TOEIC.</td>
<td>5.18</td>
</tr>
<tr>
<td>14. I would like to improve my TOEIC score to get a good job in the future.</td>
<td>5.16</td>
</tr>
<tr>
<td>22. I would rather learn communicative English than TOEIC in my English classes.</td>
<td>3.47</td>
</tr>
<tr>
<td>28. I would like to study English hard to get a good job in the future.</td>
<td>4.91</td>
</tr>
<tr>
<td>29. English classes should focus on TOEIC.</td>
<td>3.74</td>
</tr>
</tbody>
</table>
**Relationship between the motivational scales and gain scores on TOEIC-based proficiency test**

A multiple regression was performed with the gain on the test as a dependent variable, and factor scores for the four motivational variables as independent variables. Table 5 reports the unstandardized regression coefficients ($B$), the standard error of the unstandardized regression coefficients (Std. Error), the standardized regression coefficients (Beta), $t$-test evaluating the significance of the difference of the $B$ coefficients from 0 ($t$), and the $p$ level (Sig). Notice that the regression coefficient for attitudes toward TOEIC is significant suggesting that information regarding differences in students’ attitudes toward TOEIC can be used to predict student performance on the test.

**Table 5. Regression analysis of the motivational scales with the proficiency test scores**

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes twrd target group</td>
<td>-.56 (.72)</td>
<td>-.08 (.78)</td>
<td>-.78</td>
<td>.44</td>
</tr>
<tr>
<td>Intrinsic value</td>
<td>.74 (.72)</td>
<td>.10 (.10)</td>
<td>1.03</td>
<td>.31</td>
</tr>
<tr>
<td>Attainment value</td>
<td>.24 (.72)</td>
<td>.03 (.03)</td>
<td>34</td>
<td>.74</td>
</tr>
<tr>
<td>Attitudes twrd TOEIC</td>
<td>1.54 (.72)</td>
<td>.22 (.22)</td>
<td>2.13</td>
<td>.03</td>
</tr>
<tr>
<td>Constant</td>
<td>4.34 (.72)</td>
<td>.22 (.22)</td>
<td>6.05</td>
<td>.00</td>
</tr>
</tbody>
</table>

**Discussion and conclusion**

An obvious limitation of this study is that it is a very small-scale pilot study with only 97 participants. Therefore, it is difficult to claim that the results presented here are definitely generalizable. Nonetheless, there are some findings that may interest both researchers and teachers.

The first issue this study was trying to deal with was dimensionality of motivation. Just as many other previous studies have suggested, the findings of this study once again reminded us that motivation is a multi-faceted and complex construct. This is an important point for teachers to remember because it can often be tempting to simply label our students either as motivated or unmotivated. If motivation is in fact multi-faceted, what teachers should do is to try to find out what aspects of motivation our students are low in, and make an effort to improve that aspect. Or we can also pay attention to their strong aspects of motivation, and help them boast that aspect so that it can compensate for their weak aspects of motivation.

Although it was hypothesized that all of the motivational components suggested by expectancy-value theory and Gardner’s socio-educational model of motivation and included in this study would be identified as distinct constructs, the results of the statistical analyses show that only a few were found to be distinguishable constructs. Among the six motivational constructs proposed in expectancy value theory (expectancy, past experience, attainment value, intrinsic value, extrinsic utility value, and cost), attainment value emerged as an independent factor. On the other hand, despite Eccles and Wigfield’s claim that expectancy for success and intrinsic value are two distinct constructs, the two constructs loaded together on the same factor in this study. This might suggest that they are so closely related that they may be inseparable in many cases. These findings are partially in keeping with the results of previous research (Mori, 2002, 2003).
It is also interesting to note that all of the items concerning students’ attitudes toward target language cultures and people loaded together, which might suggest that attitudes toward cultures and people of English speaking communities is a distinguishable construct as Gardner proposes. What is truly worthy of note here, however, is the fact all of the TOEIC related items were not intermingled with any other motivational items. This finding might suggest that those who like studying English and have strong interest in English speaking cultures may not necessarily be interested in getting a good score on the TOEIC while those who do not like studying English and have negative attitudes toward target language cultures could have desire to get a high score on the TOEIC test. This finding is also in line with the well-known dichotomy of intrinsic versus extrinsic motivation.

It was also hypothesized that all of the identified motivational constructs would be related to students’ gain scores. However, students’ attitudes toward TOEIC was found to be the only significant predictor of gain scores. In other words, at least statistically speaking, their attitudes toward the target group, intrinsic value or attainment value did not explain students’ performance on the test. This result, together with the finding that attitudes toward the TOEIC is a distinct construct, could be interpreted as an easy solution for teachers: just focus on TOEIC, nothing else if their goal is to improve their students’ TOEIC scores. However, conscientious teachers would find the other aspects of language teaching equally important. What these findings might suggest then is that if one is already trying to foster students’ interest in the language and cultures, but at the same time have to improve their students’ TOEIC scores, it can be helpful to raise students’ perceived value of the TOEIC test.

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References


Appendix 1

Motivation Questionnaire

質問を読んで、それぞれ、以下の1から7までもっとも自分の意見に近いものにマークをして下さい。

1. 全く同意しない。 5. どちらかといえば同意する。
2. 同意しない。 6. 同意する。
3. どちらかといえば同意しない。 7. 非常に同意する。
4. どちらでもない。

1. 英語は得意である。
2. アメリカの生活や文化に興味がある。
3. 英語を勉強して、TOEICでよい成績を取りたい。
4. イギリスの生活や文化に興味がある。
5. その他の英語圏の生活や文化に興味がある。
6. 英語の勉強をするのが好きである。
7. 英語の勉強は教養を高めるという意味において重要である。
8. 英語の勉強は実際の生活に役立つと思う。
9. 英語の勉強をして、英語で小説や新聞、雑誌が読めるようになりたい。
10. 英語を勉強しているのは、それが必須科目であるからにすぎない。
11. 英語の授業には一生懸命取り組もうと思っている。
12. 英語に対しては苦手意識が強い。
13. アメリカ人の友達をつくりたい。
14. TOEICの点数を上げて、将来の就職に役立てたい。
15. イギリス人の友達をつくりたい。
16. その他の英語圏の人々と交流を深めたい。
17. 中学や高校の英語の成績はあまりよくなかった。
Appendix 2

*English Translation of the Questionnaire*

Read the following statements and choose the number that best matches your opinion of each statement.

1. strongly disagree
2. disagree
3. slightly disagree
4. neither agree or disagree
5. slightly agree
6. agree
7. strongly agree

1. I am good at English.
2. I am interested in American lifestyles and cultures.
3. I would like to get a good score on TOEIC.
4. I am interested in British lifestyles and cultures.
5. I am interested in lives and cultures of other English speaking countries.
6. I like studying English.
7. Studying English is important because it will be conducive to my general education.
8. Studying English is useful.
*9. By studying English, I hope to be able to read English novels, newspapers and/or magazines.*
10. I am studying English merely because it is a required subject.
11. I try to study hard in English classes.
12. English is one of my weak subjects.
13. I would like to make American friends.
14. I would like to make British friends.
15. I would like to improve my TOEIC score to get a good job in the future.
16. I would like to communicate with people in other English speaking countries.
17. My grades for English classes at junior and senior high schools were not very good.
18. Studying English is fun.
19. Studying English is important because it will broaden my view.
20. I liked English classes at junior and senior high schools.
21. I would rather not to study English if possible.
22. I would rather learn communicative English than TOEIC in my English classes.
23. Studying English is important because it will make me a more knowledgeable person.
*24. Even if there were no homework, I would try to study outside of class.*
25. I am studying English because I would like to live abroad in the future.
26. I would like to use the English I studied when I travel overseas.
27. I am studying English merely because I would like to get good grades.
28. I would like to get a job that uses the English I studied.
29. English classes should focus on TOEIC.
*30. I procrastinate about doing my homework/assignments until right before the due date.*
31. By studying English, I hope to be able to understand movies in English.

*32. I work on my assignments according to a preplanned schedule.

*33. I work on my assignments just to the extent that I will not fail a class.

34. Studying English is a waste of time.

Note: Items with * represent the eliminated items.