



The Effect of Attitude on Engagement and Performance among Japanese University Students: Focusing on Utilizing Knowledge of English

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Introduction

Learning a foreign language has recently become compulsory in elementary schools in Japan. This implies that learning English is important to lead a better life. Gakken Education Research Institute (2018) found that students considered English to be the most beneficial subject for their lives. Even though most students considered English to be beneficial, some did not intend to utilize English in their daily lives and/or in their future careers. The Benesse Educational Research and Development Institute (2018) revealed that more than 40% of secondary school students believed that they would rarely use English in the future. Thus, this suggests that although Japanese students acknowledge English is useful, they do not intend to actively use the language. This goes against the advice of the Japanese government (Ministry of Education, Culture, Sports, Science and Technology, 2014) which has emphasized the importance of establishing consistent educational goals in relation to what one can achieve with what they are learning.

There are plenty of opportunities for students to apply their knowledge of English. For example, students who choose to write a psychology report in English will be able to refer to research articles not only in their native language, but also from all over the world. However, those who do not choose to use English to write the article, are likely to have access only to articles published in their native language. Students who conduct research extensively are more likely to obtain better grades than those who do not. These students may also be motivated to study English further because what they have learned may have benefited them in their daily lives or career. Furthermore, much information can be acquired from SNS (social networking service) such as Twitter or various websites when employing English. This assists one in understanding what is going on in the world. Consequently, all individuals may benefit from utilizing English.

However, not much research has supported these merits of actively utilizing English. The purpose of this study was to confirm the advantages of having a positive attitude toward utilizing English. If students have a positive attitude toward English, they are likely to spend a lot of time studying the language.

Therefore, we examined the relationship between attitude, engagement and performance based on task value theory (Eccles & Wigfield, 1985, 2002).

Literature Review

The factors that affect English performance such as attitudes, beliefs, and motivation have been widely researched. We explored how values affect English performance. Values play a very important role in motivating learners to study further. Eccles and Wigfield (1985) proposed a theory of task value, which assumed four components: Attainment value, intrinsic value, utility value, and cost. Of these values, utility value has received special attention (e.g., Harackiewicz & Priniski, 2018). Utility value represents how well a task relates to life and career goals. Examples of the perceived utility value of English include the usefulness of the language to converse with foreigners and one of the criteria for university entrance examinations.

Some studies have revealed that when learners sense utility value, they study harder, show more interest, and perform better (Harackiewicz, Durik, Barron, Linnebrink-Garcia, & Tauer, 2008; Hulleman, Durik, Schweigert, & Harackiewicz, 2008). In addition, the interventions increasing students' utility value enhanced academic effort (e.g., Brisson et al., 2017; Hulleman & Harackiewicz, 2009; Harackiewicz & Hulleman, 2010). In these studies, learners were asked to consider how to apply a topic to their life. Results demonstrated that this intervention affected students' positive outcomes. For example, by conducting a randomized field experiment in a science class, Hulleman and Harackiewicz (2009) tested whether a relevant and meaningful curriculum increases learners' motivation and performance. While students who were assigned to the relevance condition were instructed to write how to apply the topic or concept they were learning to their life or to the life of someone they know, those assigned to the control condition were instructed to write a summary of the material they were learning. The results showed the relevance intervention increased interest and performance, especially for students with low success expectations. The implications of this study include the notion that utility value is of the utmost importance for learning.

Science, Technology, Engineering, and Mathematics (STEM) education research has confirmed the effects of utility value. STEM research studies have suggested that utility value may also play an important role in success in English education. Fujii (2015) found that a Japanese high school student's utility value for English was positively related to change of academic achievement and hard work. However, some students tend to have a passive attitude when assessing the value of the knowledge they have acquired and thus, tend to be unwilling to learn what they believe has a low utility value. Learners with this attitude could engage more if they recognized the value of what they were learning. In contrast, if they are unable to do so, their engagement may be inhibited. Ida (2016) proposed that students should have an active rather than a passive attitude toward utilizing knowledge. The notion of utilizing knowledge includes a future perspective such as the desire to employ what they have learned for a future career and/or in their daily lives. Examples of a positive attitude include goal attitudes such as aiming to use English skills to secure a future job or to move to a new country and communicate with others. In essence, it is not only the perceived value of learning English that is important, but also the willingness to use it. In this study, we investigated the effect of a positive attitude toward learning English on academic performance.

In addition, it has been found that attitude is not directly correlated with performance. It seems as though various factors mediate these relations. Some studies have found that engagement is a very important factor. Engagement refers to the quality of a learner's connection or involvement with the task (Skinner, Kindermann, & Furrer, 2009). Skinner and Belmont (1993) pointed out that students with high engagement tend to be involved in learning activity with positive emotion which leads to superior performance. Indeed, some previous studies of EFL have focused on engagement (e.g., Sarhandi, Bajnaid, & Elyas, 2017). Although engagement consists of many types like behavioral, emotional, and cognitive

(see Christenson, Reschly, & Wylie, 2012; Skinner et al., 2009), we focused specifically on behavioral engagement, which is associated with learners' persistence, effort, attention, participation, and involvement. For example, learners with high behavioral engagement may work as hard as they possibly can or listen to what their teacher says carefully. Umemoto, Ito, and Tanaka (2016) showed that behavioral engagement affected academic performance positively in a study that investigated the role of engagement in Japan. In addition, Kera and Nakaya (2014) revealed that perceived task value was associated with behavioral engagement. Kim, Jiang, and Song (2015) investigated the effect of interest and utility value for math on behavioral engagement and math achievement. The results demonstrated that although interest predicted stronger engagement and achievement than utility value, utility value also predicted positive outcomes among those with high competence. Based on these results, behavioral engagement may mediate the relationship between a positive attitude toward utilizing English and English performance.

The behavioral engagement of learning English means studying English as hard as possible such as "listening very carefully to what teacher said," "paying attention in English class," and "participating in class discussions actively." The positive attitude toward utilizing a knowledge of English would increase engagement for English. In turn, the students who have high engagement should perform better academically in English.

Research questions

- Q1: Does a positive attitude toward utilizing knowledge of English lead to better academic performance in English?
- Q2: Does engagement mediate the relationship between attitude and performance?

Purpose of the Study

As noted previously, although numerous studies have been conducted on value, most have examined STEM education and perceived subjective value. Accordingly, additional research on the effect of a positive attitude, for example, wanting to utilize knowledge rather than perceived value, that is, experiencing knowledge as useful in a context of English learning is needed. Consequently, the purpose of this study was to investigate the relationship between attitude toward using knowledge of English, engagement, and performance. We focused on Japanese university students for the following reasons. First, although Japanese students have acknowledged English as beneficial, they have noted that they would rarely use English in the future (Benesse Educational Research & Development Institute, 2018; Gakken Education Research Institute, 2018). Second, university students would have a greater opportunity to speak English and would be more apt to feel the value. Third, the English test scores of Japanese are not high. A report on test takers worldwide (Institute for International Business Communication, 2019) indicated that the average TOEIC® score of Japanese students was relatively low compared to other countries. Finally, Japanese don't understand the usefulness of English knowledge if they do not autonomously want to utilize it because there are not many situations that require English in daily life in Japan. For these reasons, it is important to investigate whether giving Japanese university students positive attitude toward utilizing English improves their English performance.

The hypothesis of the present study was that attitude toward utilizing English affects engagement. In turn, engagement affects academic performance in English. The conceptual model of this study is depicted in Figure 1. That means students who wants to utilize English knowledge would study English as hard as possible. The harder the students study English, the better their performance in English would be.

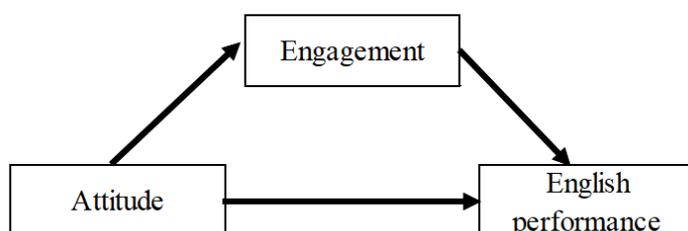


Figure 1. Conceptual model of the present study.

Method

Analysis Method

A quantitative method in which questionnaires were administered was employed. This study was approved by the ethics committee of the University to which the first author belonged. SPSS version 25 was employed to analyze the data.

Participants

The participants included 79 Japanese university students (57 women, 22 men). The class this study was conducted in was randomly selected from the subject author in charge. All of the participants majored in a foreign language such as English and Spanish. All of them belonged to the same faculty and were required to study English. The average age of students was 20.100 ($SD = 1.181$). Their average TOEIC score, TOEFL ITP score, and GTEC score was 619.767, 473.787, and 246.304, respectively.

Questionnaire

The questionnaire assessed the following three primary aspects and took approximately 10 minutes to complete.

1. Attitude toward using knowledge of English. Two items were employed to assess students' attitude toward using knowledge of English. Specifically, the students were asked to assess whether they wanted to work abroad in the future and whether they wanted to live abroad in the future. The questionnaire used a five-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree). In other words, the items assessed their intention to use English in the future.
2. Engagement: We assessed behavioral engagement through the Japanese version of an engagement scale which was translated by Umemoto et al. (2016). It included five items. This scale was developed by Skinner et al. (2009) and it has been widely used in other studies (e.g., Umemoto & Tanaka, 2017). We used the Japanese version and adapted it to an English learning situation. An example of an item is, "I try hard to do well in English class." The students were required to assess each item on a five-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree).
3. English test scores: We used the TOEFL ITP, TOEIC, and GTEC L/R scores. These are popular English tests in Japan, which are extremely reliable. The TOEFL ITP test included listening comprehension, structure and written expression, and reading comprehension. The TOEIC test included listening and reading, and the GTEC L/R test included listening and reading. The TOEFL score, TOEIC score, and GTEC score was used for 61, 43, and 46 students, respectively.

These English tests have also been used for studies conducted on TEFL (e.g., Chujo & Oghigian, 2009; Tanaka, 2015).

Analysis

At first, we calculated descriptive statistics and correlations (Table 1). Next, in accordance with our conceptual model (Figure 1), that attitude toward utilizing English affects engagement and in turn, engagement affects English performance, a mediation analysis was conducted. We applied the bootstrapping procedure (Preacher & Hayes, 2004) which is a resampling technique to estimate statistics on a population by sampling a dataset with replacement (see MacKinnon, 2012). 2,000 subsamples to estimate the direct and indirect effects in our mediation model by PROCESS (Hayes, 2013). This analysis has often been used to show which factor mediated the conceptual process.

Results

Reliability of Valuable

The reliability of valuables was tested. The items of attitude toward using knowledge of English were sufficiently correlated ($r = .571, p < .01$), therefore, we added the score of two items. In addition, Cronbach's α of engagement scale showed good reliability ($\alpha = .816$) and the results of principal component analysis indicated sufficient factor loading (.764 ~ .808). The results implied the reliability of these scales were enough.

Descriptive Statistics and Correlations

The descriptive statistics and correlations are presented in Table 1. Attitude toward using knowledge of English correlated with engagement ($r = .444, p < .01$) and English performances ($r = .294 \sim .351, ps < .05$). Engagement also correlated with English performances ($r = .461 \sim .610, ps < .01$). For English performance, the test scores correlated with each other ($r = .509 \sim .818, ps < .01$).

TABLE 1
Descriptive Statistics and Correlations

	min	max	<i>M</i>	<i>SD</i>	2	3	4	5
1. Attitude	1	5	3.601	1.180	.444**	.351**	.325*	.294*
2. Engagement	2	5	3.930	0.738		.461**	.466**	.610**
3. TOEFL score	380	550	473.787	45.905			.818**	.611**
4. TOEIC score	380	830	619.767	123.283				.509**
5. GETC score	140	354	246.304	44.507				

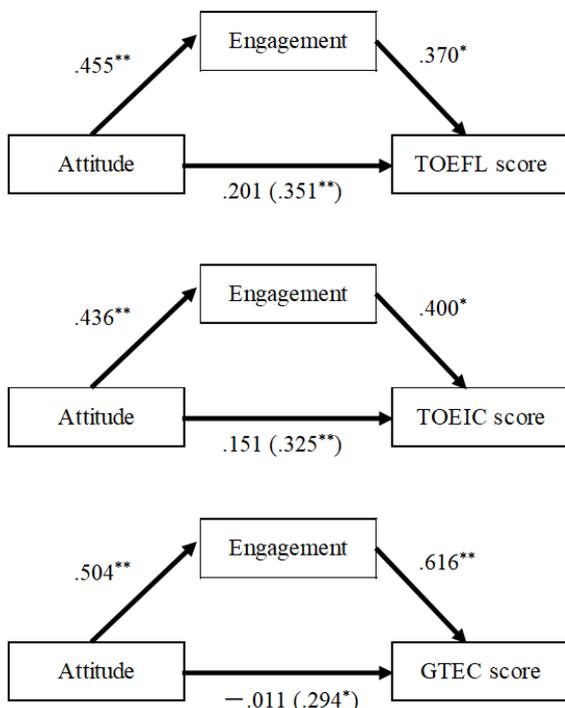
** $p < .01$, * $p < .05$

Note. Attitude means "attitude toward utilizing knowledge of English."

Mediation Analysis

The results of the mediation analysis are displayed in Figure 2. First, we investigated the effect on the TOEFL scores. Attitude toward utilizing English affected engagement ($\beta = .455, p < .01$) and engagement affected the TOEFL scores ($\beta = .370, p < .05$). The indirect effect was significant ($\beta = .168, 95\% \text{ CI } [.029, .318]$). This implies that the relationship between attitude and English performance was mediated by engagement. Subsequently, we investigated the effect on the TOEIC scores. Attitude toward utilizing English affected engagement ($\beta = .436, p < .01$) and engagement affected the TOEIC scores ($\beta = .400, p < .05$). The indirect effect was marginally significant ($\beta = .174, 95\% \text{ CI } [-.004, .395]$). Finally, we

investigated the effect on the GTEC scores. Attitude toward utilizing English affected engagement ($\beta = .504, p < .01$) and engagement affected the GTEC scores ($\beta = .616, p < .01$). The indirect effect was significant ($\beta = .310, 95\% \text{ CI } [.124, .505]$).



Note. Attitude means “attitude toward utilizing knowledge of English.” The numbers in the brackets showed the effect of attitude on English performance excluding mediator.
 $* p < .01, * p < .05.$

Figure 2. Relations between attitude, engagement and English performance.

Discussion and Implications

The purpose of this study was to show the relationship between attitude toward using knowledge of English, engagement, and English performance. In relation to the first research question, “Does a positive attitude toward utilizing knowledge of English lead to better academic performance in English?” The results of correlation analysis revealed a positive relationship between a positive attitude toward utilizing knowledge and performances on three English tests. With regard to the second research question, “Does engagement mediate the relationship between attitude and performance?” The results of the three English tests showed the same tendency: Attitude toward utilizing English affected English performance positively, and the relationship was mediated by engagement, which means our hypothesis was confirmed and this trend was stable. The results implied that attitude toward utilizing English helped improve English performance. So to enjoy a good life and/or future career with a positive attitude, sufficient knowledge of English might be imperative.

For example, Japanese university students who want to work abroad are required to have a satisfactory command of the English language. Therefore, students who want to utilize their knowledge should engage more and achieve good scores in English tests. Engagement is an important factor in explaining the relationship between learners’ attitudes and English performance.

Ida (2016) proposed that when students take a positive attitude to utilizing knowledge, they will endeavor to improve their knowledge. They are likely to attempt to understand information even if it is difficult to grasp. In contrast, when students have a passive attitude, they may question whether what they are learning is useful. If they believe the knowledge is useful, they may engage more. However, if they consider it to be useless, their engagement may be inhibited. This implies that a positive attitude in utilizing knowledge may be a more effective motivational attitude for learners. In our study, the effect of utilizing knowledge was confirmed. Although previous studies which focused on perceived value showed that to understand the utility value was key to motivating learners (e.g., Kera & Nakaya, 2014), our study indicated that not only perceived but also utilized value should be important. In fact, the results of the correlation between attitude and engagement showed enough effect size ($r = .444$). The positive attitude to utilize the knowledge of English strongly leads to engagement because English might be necessary to pursue a tangible goal. In addition, engagement affected performance. The correlation between engagement and English test performance also showed enough effect size ($r = .461 - .610$). As identified by Skinner and Belmont (1993), learners who are engaged well should show sustained involvement in learning activity with positive emotion which might lead to a better performance.

In order to enhance learners' interest and performance, a utility value intervention was performed in several studies (e.g., Hulleman, Barron, Kosovich, & Lazowski, 2016). In some of these interventions, learners were asked to consider the connection between what they had learned and their daily life and/or future career (e.g., Hulleman, Godes, Hendricks, & Harackiewicz, 2010) while in others, teachers taught them the usefulness of the knowledge (e.g., Durik, Shechter, Noh, Rozek, & Harackiewicz, 2015). Although the effectiveness of these approaches has been demonstrated in the field of STEM education, these methods have not been sufficiently applied to TEFL. This type of intervention may increase learners' motivation to study English. However, the utility value intervention focused not on attitudes toward utilizing knowledge but rather on a perception of the utility value. Further studies are required to confirm whether these approaches can improve attitudes.

In an educational setting, teachers often emphasize teaching methods, curriculum, and materials. However, in addition to these aspects, motivating students is also important. Therefore, teachers should understand what kind of motivation is beneficial for students. Evidence of the advantages of a positive attitude has been revealed in this study. The importance of such an attitude and in particular, of an attitude toward utilizing English has been revealed. To raise awareness among students to consider utility value, an intervention thereof (see Harackiewicz, Tibbetts, Canning, & Hyde, 2014, for a review) should be effective. For example, research has shown that teaching how a topic could be useful in everyday life (Durink & Harackiewicz, 2007) and writing about the utility of a material or topic in their class (Hulleman et al., 2010; Hulleman & Harackiewicz, 2009) improved student motivation. Therefore, in English classes, the teacher should explain situations in which they can use English such as job hunting, college admission exams, acquiring information to write a good report, and understanding global politics. Furthermore, time should be spent on making students aware of the utility of English to foster a positive attitude toward the language.

This study has several limitations. First, we investigated only one aspect of the attitude of utilizing knowledge as proposed by Ida (2016). It is recommended that further studies be conducted to explore other aspects thereof. Second, this study employed a quantitative method in which a questionnaire was administered. It is recommended that other designs such as qualitative data analysis and experimental designs be employed to confirm the results. Third, we focused on students at one Japanese university. It is recommended that other samples be tested to ensure the robustness of the results. Finally, ways to foster a positive attitude were not proposed. The development of new education techniques such as interventions that focus on utility value are necessary.

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