Language Learning Belief Factors Affecting English Achievement

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The purpose of the study was to identify Korean high school students’ beliefs about L2 learning and a structural model that best explains the belief factors associated with L2 achievement using structural equation modeling (SEM). It has furthermore explored the effect of gender on the structural model of belief factors affecting L2 achievement. A total of 447 students (253 boys, 194 girls) at two schools completed a questionnaire containing 26 Likert-scale items. The results produced five underlying constructs: self-efficacy of English learning, importance of grammar learning, role of teacher feedback, importance of accuracy, and nature of English learning. The final SEM model showed that both self-efficacy of English learning and importance of grammar learning were positive, direct, and significant predictors of L2 achievement. Role of teacher feedback and nature of English learning, however, were indirectly related to the L2 achievement through the mediating role of self-efficacy of English learning. The study also provided empirical evidence that gender moderated the causal relationships among belief factors affecting L2 attainment. Based on the findings, pedagogical implications to improve L2 instruction were suggested.

I. INTRODUCTION

Learners’ beliefs have been identified as an important individual difference variable in understanding second or foreign language (L2) learning processes and outcomes. Accordingly a substantial body of research has been conducted from multiple perspectives since Horwitz’s (1985) pioneering study. Learners’ beliefs have influenced the way they learn (Cotterall, 1999; Diab, 2006; Kern, 1995; Sakui & Gaiies, 1999). Furthermore, such beliefs have been linked with other learner variables, such as L2 learning strategies.

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(Abraham & Vann, 1987; Horwitz, 1987, 1988; Yang, 1999), L2 anxiety (Horwitz, 1988; Truitt, 1995) and attitudes (Mantle-Bromley, 1995), and L2 proficiency (Kim, 2003; Mantle-Bromley, 1995; Peacock, 1999). It should be noted, however, most of the previous studies have their roots in the work of Horwitz (1985, 1987), who developed the Beliefs About Language Learning Inventory (BALLI), which triggered the so-called “BALLI studies” (Kern, 1995; Mantle-Bromley, 1995; Park, 1995; Rifkin, 2000; Sakui & Gaies, 1999; Yang, 1999). Thus, a methodological weakness could be leveled due to the use of the same survey items across different cultural and learning backgrounds, including the failure to account for the social contexts of L2 learners, and distinct settings and programs, as argued by Barcelos (2003) and Kouritzin, Piquemal, and Renaud (2009). Therefore, further research, in which survey items to explore learner beliefs deal with socially conditioned and contextually embedded in the L2 learning setting, is needed.

Although a few studies (Kim, 2003; Kim, 2006; Mantle-Bromley, 1995; Peacock, 1999) explored the relationship between learner beliefs and L2 achievement, these studies performed ANOVA or intercorrelations to assess the strength of such relations. Correlation without reference to other factors that directly or indirectly influence L2 achievement limits the generalizability of the findings (Pae, 2008). No attempts have been made to examine the structural relationship between belief factors and L2 achievement including the effects of mediating or moderating variables in an EFL context. Thus, it is necessary to examine the causal relationship among belief factors affecting L2 achievement using an instrument embedded in the EFL setting in Korea with a more rigorous statistical analysis. Therefore, the overall objectives of the present study are to (1) explore and describe beliefs about English learning of high school students in a Korean EFL context, (2) identify a structural model that best explains the factors associated with English achievement using structural equation modeling (SEM), and (3) examine gender differences in the proposed causal path model.

II. THEORETICAL BACKGROUND

1. Beliefs about L2 Learning

Researchers on learner beliefs have attempted to identify learners’ preconceived notions about what is involved in learning an L2. Horwitz (1987) defined learner beliefs about L2 learning in five major areas dealt with by the inventory: foreign language learning aptitude; difficulty of learning a foreign language; the nature of language learning; learning and communicative strategies; and motivations and expectations about language learning. The BALLI has been extensively used in several L2 learning contexts in the U.S. (Horwitz,
Language Learning Belief Factors Affecting English Achievement

175

1988; Kern 1995; Mantle-Bromley, 1995; Rifkin, 2000). A number of studies also used a translated or modified version of the BALLI to investigate ESL or EFL learner beliefs. Korean (Kim, 2003; Kim, 2006; Truitt, 1995), Japanese (Sakui & Gaies, 1999), Chinese (Peacock, 1999, 2001), Taiwanese (Huang & Tsai, 2003; Yang, 1999), and Lebanese (Diab, 2006) L2 learners or teachers have been targeted in the BALLI based studies. The major findings of the studies were summarized as follows: (1) The ESL and American foreign language students in the U.S. had more confidence in their L2 ability and more integrative motivation than Korean EFL students, while the Koreans had more instrumental motivations than the Americans; (2) similarities, however, appeared between the Korean and Chinese students due to their similar culture, English education systems, and the role of English in the two countries; and (3) the Chinese students displayed greater confidence in their English ability than the Koreans.

Meanwhile, the BALLI based studies also examined the links between beliefs and L2 proficiency (Kyung Ja Kim, 2006; Mantle-Bromley, 1995), strategy use (Yang, 1999), and anxiety (Horwitz, 1988; Truitt, 1995), and the effect of gender on beliefs (Bacon & Finnemann, 1992; Rieger, 2009). However, some researchers (Kuntz, 1996; Rieger, 2009) have raised concerns about the validity and reliability of the BALLI. Most studies using the BALLI (e.g., Kern, 1995; Mantle-Bromley, 1995; Peacock, 2001) reported the results of the individual items employing descriptive statistics. But the results of the individual BALLI items cannot be called factors in a statistical sense, as they were not the actual results of factor analysis. For this reason, previous studies may provide an incomplete picture of what factors make up L2 learner beliefs and the different roles that these factors play.

Horwitz (1999) examined differences in beliefs among different cultural groups of learners and found that L2 learning contextual differences may be important sources of between group variations. Diab (2006) has given theoretical support to Horwitz’s (1999) findings that learners’ beliefs about the difficulty of and motivations for L2 learning seemed to be contextualized in politically and socio-culturally bound learning situation. Furthermore, in a more recent survey of more than 6,000 university students in Canada, Japan, and France, Kouritzin et al. (2009) found differences in language learning beliefs in the three countries. More specifically, learners from Japan believed that knowledge of an L2 carries value in and of itself, and such beliefs can lead the students to either have unrealistic expectations, engage in ineffective learning, or play a self-fulfilling prophesy (Kouritzin et al., 2009). This is an indication of the fact that beliefs are situated within the socially and culturally conditioned context where learning takes place. For these reasons, without examining the learner beliefs within the socially and culturally specific instructional practices, a true understanding of a possible causal relationship between beliefs and L2 achievement is incomplete.
2. The Relationship between Beliefs and L2 Achievement

Horwitz (1988) and Mantle-Bromley (1995) theorized that learner misbeliefs about L2 learning may hinder their progress and persistence in L2 study and ultimately negatively affect L2 achievement. To date, quite a few empirical studies appeared to have researched the relationship between learner beliefs and L2 achievement. Ehrman and Oxford (1995) reported that believing that one can learn languages well was significantly correlated with L2 proficiency in speaking and reading. Peacock (1999, 2001) in studies with Chinese EFL students also found statistically significant association between certain belief items and proficiency: students who (1) underestimated the difficulty of learning L2; (2) believed that L2 learning is a matter of memorization of vocabulary and grammar rule; (3) thought that being allowed to make mistakes in the beginning meant they would find it hard to get rid of them later on; and (4) believed that they should not say anything in L2 until they could say it correctly were significantly less proficient than students who thought otherwise. Similar results have been reported that learner beliefs about L2 learning are of critical importance to gains in L2 competence (Hinenoya & Gatbonton, 2000; Mori, 1999).

The hypothesis that high-proficiency learners tend to have more positive L2 learning beliefs than low-proficiency learners has been supported by Huang and Tsai’s (2003) findings. They discovered that there were significant belief discrepancies between high- and low-proficiency L2 learners. When it comes to the Korean EFL context, few studies researched such relationship. Kim (2003) and Kim (2006), in their studies with college students within the context of English for a compulsory course, found that some of learner belief items positively or negatively affected L2 achievement. Kim (2001), however, reported that the correlation between learner beliefs and L2 proficiency was not significant \( (r = -.07) \). In sum, while some of previous studies suggested a link between beliefs and L2 achievement, some found inconclusive findings about whether learner briefs varied by L2 proficiency or were simply related to individual differences in instructional settings.

Although some researchers have attempted to find the relationships between learner beliefs and L2 achievement, most of them employed correlation, t-test, or ANOVA in order to assess the strength of the associations. A correlation analysis does not provide information about the causality among factors of interest, thereby failing to identify direct and indirect paths that lead to learners’ L2 achievement. Accordingly, it is still open to question which learner belief factor has the predictive power in accounting for variances associated with L2 achievement. Therefore, it is necessary to make a systematic investigation using an instrument embedded in a Korean EFL learning context with a more rigorous statistical analysis. Through the SEM analysis of the relationship between learner beliefs and L2 achievement, the findings of the present study might suggest how L2
classroom instructors and curriculum developers could most profitably direct their efforts to promote successful L2 learning.

3. The Relationship between Beliefs and Gender

Although researchers have long been interested in the relationship of gender to behavior and cognition, and have found significant gender-related differences, there is a paucity of systematic and empirical research on how gender impacts learner beliefs. Furthermore, only recently have gender differences been investigated with respect to L2 learner beliefs. Bacon and Finnemann (1992) in their study with Spanish learners found that female subjects than males were more motivated and had a more positive attitude and belief toward L2 speakers, which is in line with several previous studies, suggesting that the general female superiority on L2 learning (Boyle, 1987; Nyikos, 1990). However, Siebert (2003) added interesting details to gender differences in L2 learner beliefs. Findings revealed that male students were more likely than female students to rate their abilities highly. Males also were much more optimistic, indicating that male and female students differ in their assessments of beliefs related to ability. Siebert also reported that 23% of females, as opposed to 47% of males either strongly agreed or agreed that the most important part of learning a foreign language is learning grammar. Furthermore, Bernat and Lloyd (2007) found that females enjoyed talking to natives less than males did. Meanwhile, Tercanlioglu (2005) found no statistically significant gender differences in L2 learner belief factors. The role of gender might be context specific (Nyikos, 1990) and the findings of the previous studies yielded such inconsistent results, and thus the effect of gender is worth examining in the Korean EFL context.

With respect to the research studies in which Korean students have been targeted, only a few BALLI based studies have appeared in relation to the use of learning strategies (Kim, 2001; Park, 1995) and learners’ anxiety (Truitt, 1995). More recently, Kim (2003) and Kim (2006) identified and compared L2 learning beliefs between students and their English teachers. Thus, there has been a lack of empirical research on Korean students’ beliefs about L2 learning. Besides, little effort has been made to empirically test the issue that there is an association between certain belief factors and L2 achievement. Therefore, the present study aims to bridge these gaps in the literature and examine the causal relationship between learner beliefs and L2 achievement in order to promote the theoretical underpinning of the foundations of L2 beliefs. The present study focused on the following research questions:

1. What underlying constructs are present in Korean learners’ beliefs about English learning?
2. What is the structural relationship between learner beliefs and L2 achievement?
3. Does the structural model differ according to students’ gender?

III. RESEARCH METHOD

1. Participants

A total of 447 students from two public high schools in Gwangju Metropolitan City took part in the present study. In one school, there are 253 boys from eight intact classes, while there are 194 girls from six intact classes in the other school. The students were all Korean natives and 11th-graders. They all have previously studied English as a compulsory school subject for at least 8 years from their grade 3 in elementary school. A small number of the participants \( n = 76, 17\% \) have traveled abroad, and about half of the students \( n = 219, 49\% \) enrolled in at least one English class in a private institute. When asked to rate themselves on their self-perceived English proficiency 40.5\% \( n = 181 \) of the students rated themselves as either “very poor” \( n = 68, 15.2\% \) or “not good” \( n = 113, 25.3\% \), and 25.5\% \( n = 114 \) rated themselves “good” \( n = 76, 17\% \) or “excellent” \( n = 38, 8.5\% \). One hundred fifty-two (34\%) students rated their level as “medium” compared to other students in their class.

2. Instruments

1) Beliefs about English Learning

The questionnaire consisted of two parts: a Likert scale response section and a background information section. In order to assess students’ beliefs about English learning, the present study initially adapted 9 items from Horwitz’s (1987, 1988) studies. Additional items were included to explore Korean EFL high school students’ culture- and context-specific beliefs. These new items were constructed based on discussion with Korean high school English teachers and learners and the review of previous studies (Amuzie & Winke, 2009; Cotterall, 1999; Kim, 2003; Loewen et al., 2009; Polat, 2009; Sakui & Gaies, 1999). The new items were intended to reflect the Korean EFL learning context such as role of teacher feedback, and importance of grammar learning and school classes with regard to L2 success. In order to complete the items in participants’ native language, the items without established Korean counterparts were translated into Korean and slightly modified to provide a better suited measure to the Korean EFL context. The items included in the questionnaire were confirmed through an iterative item analysis procedure. If an item
showed a low or negative item value, the item was deleted. The final set of questionnaire contained 26 items. All the items were based on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) for the students to self-report the extent to which the statements applied to themselves. Demographic information such as gender, self-assessed English proficiency, and travel experience to English-speaking countries was also collected.

2) English Achievement

For the English achievement measure, the present study employed the raw score of the final exam. The exam included vocabulary, grammar, and reading sections with a mainly multiple-choice format and few short-answers. The researcher acquired students’ test results from their English instructors based on individual participants’ agreement to disclosure of their scores. Three hundred eighty-three English achievement data out of 447 participants were collected for the analysis.

3. Procedures

Data collection was made on a regular class session by classroom English teachers. Thus, relatively high response rates were achieved approaching 97% for boys and 99% for girls. Each participant was asked to complete an informed consent by providing his or her name and identification number. The entire data collection process took approximately 15 minutes.

4. Data Analyses

Initially, in order to identify the underlying factors of learner beliefs, an exploratory factor analysis was conducted. A Principal axis factoring with oblique rotation method was chosen because there is theoretical and empirical basis for assuming psychological constructs to be correlated to one another. Accordingly, this may yield a more accurate and realistic representation than Principal components analysis (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). The extracted factors then served as the subscales (e.g., latent variables) throughout the rest of the analyses. Cronbach’s alphas were calculated to estimate the reliability coefficient for each subscale of L2 beliefs.

Next, the SEM analysis was conducted among factors affecting English achievement using Amos 18 via maximum likelihood estimation procedure (Byrne, 2001). More specifically, a baseline measurement model representing the relationship between latent variables and L2 achievement was proposed and specified based on the previous literature.
This proposed SEM model was tested in order to identify a structural model that best fits the sample covariance matrix observed in the present study. After identifying the structural model, the effects of gender on the targeted causal model was further examined.

IV. RESULTS

1. Learner Beliefs about English Learning

The Cronbach alpha for the questionnaire was .78, which indicated sufficient reliability coefficient for conducting a factor analysis. Four items were excluded from all further analyses for some reasons. Items 16 (English learning success depends on what I do outside the classroom) and 20 (English education at school is enough to speak English well) were deleted because their item-total correlation coefficients were below .30. Items 17 (I can improve my English by taking English lessons at school) and 21 (English success depends on what the teacher does in the classroom) loaded on multiple factors simultaneously at the loading of less than .40, which is often regarded as a critical value in the factor analysis, and consequently these two items were excluded.

The results of the factor analysis produced five factors based on eigenvalues greater than 1, inspection of the scree plot, and interpretability, accounting for 63.2% of the variance. Table 1 presents the factor loading, mean, and standard deviation for each item of the five extracted factors. Factor 1, labeled self-efficacy of English learning, contained items that concern students’ beliefs and confidence in their ability to succeed in English learning. Some items (e.g., Items 3 & 13) assessing this factor have parallels in Horwitz’s (1987, 1988) construct, L2 aptitude. Factor 2 containing three items demonstrated the importance of grammar learning. Items in this factor addressed the value of grammar learning and grammatical knowledge and the benefit of a focus on grammar in English learning. Factor 3 was labeled a role of teacher feedback because the items in this factor related to the role and effectiveness of teacher intervention. Factor 4 contained five items, which were labeled importance of accuracy because the items reflected a necessity of error correction and emphasis on error-free production. Factor 5 was labeled nature of English learning because involving items reflected characteristics of L2 learning. Although the label of this factor is identical to one from the BALLI studies (Horwitz, 1987, 1988; Hyeon-Okh Kim, 2003), items contained under the same labeling are different from one another.

Among the mean scores in Table 1, a few are worth pointing out. Firstly, the mean scores of each item representing the role of teacher feedback and importance of accuracy were higher than those of the other three factors. This indicates that student level of beliefs
in these two factors compared to those in the three was stronger. In contrast, the mean score of each item representing *importance of grammar learning* appeared lowest, which suggests that students were least likely to be favorable toward a focus on grammar in L2 learning.

**TABLE 1**

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Self-efficacy of English learning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I will ultimately learn to speak English very well.</td>
<td>.772</td>
<td>3.10</td>
<td>.89</td>
</tr>
<tr>
<td>2. I have the ability to learn English successfully.</td>
<td>.635</td>
<td>2.38</td>
<td>.78</td>
</tr>
<tr>
<td>12. I know my strengths and weaknesses in English learning.</td>
<td>.619</td>
<td>3.19</td>
<td>1.03</td>
</tr>
<tr>
<td>6. I know how to study English.</td>
<td>.547</td>
<td>2.16</td>
<td>.77</td>
</tr>
<tr>
<td>13. Everyone can learn to speak English.</td>
<td>.490</td>
<td>3.73</td>
<td>.90</td>
</tr>
<tr>
<td>23. I set my goals for learning English.</td>
<td>.467</td>
<td>3.07</td>
<td>1.17</td>
</tr>
<tr>
<td><strong>Factor 2: Importance of grammar learning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. The most important part of learning English is learning grammar.</td>
<td>.930</td>
<td>2.34</td>
<td>1.06</td>
</tr>
<tr>
<td>24. Grammar learning is equal to English learning.</td>
<td>.890</td>
<td>2.34</td>
<td>1.08</td>
</tr>
<tr>
<td>26. Knowing grammar rule helps communication in English.</td>
<td>.860</td>
<td>2.52</td>
<td>1.07</td>
</tr>
<tr>
<td><strong>Factor 3: Role of teacher feedback</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Teachers know best how well I am learning.</td>
<td>.809</td>
<td>3.43</td>
<td>.88</td>
</tr>
<tr>
<td>18. Feedback from the teacher makes me study English.</td>
<td>.698</td>
<td>3.35</td>
<td>.98</td>
</tr>
<tr>
<td>22. Teacher feedback helps me learn English effectively.</td>
<td>.645</td>
<td>3.99</td>
<td>.84</td>
</tr>
<tr>
<td>15. Teacher comments on my learning encourage confidence.</td>
<td>.525</td>
<td>3.43</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Factor 4: Importance of accuracy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. If you are allowed to make mistakes in the beginning, it will be</td>
<td>.710</td>
<td>3.63</td>
<td>1.06</td>
</tr>
<tr>
<td>difficult to get rid of them later on.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. It is important to speak English with an excellent pronunciation.</td>
<td>.634</td>
<td>3.81</td>
<td>.90</td>
</tr>
<tr>
<td>14. All student errors should be corrected.</td>
<td>.621</td>
<td>3.47</td>
<td>.93</td>
</tr>
<tr>
<td>11. English speaking is not good if it has a lot of grammar errors.</td>
<td>.544</td>
<td>2.71</td>
<td>.92</td>
</tr>
<tr>
<td>5. It is necessary to know the English culture in order to speak</td>
<td>.492</td>
<td>3.55</td>
<td>.96</td>
</tr>
<tr>
<td>English.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Factor 5: Nature of English learning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Girls are better than boys at learning English.</td>
<td>.708</td>
<td>2.58</td>
<td>1.06</td>
</tr>
</tbody>
</table>
10. Those who love to talk will learn English better. .578 3.34 1.09
1. It is easier for young students than adults to learn English. .551 3.86 .93
7. The most important part of learning English is learning new vocabulary. .479 3.69 .89

After the factor analysis identified the five factors, Cronbach alphas, mean and standard deviation scores were calculated for each of the scales. Table 2 shows the reliability coefficients and descriptive statistics. Each subscale indicated reasonably good internal consistency having a value greater than .70 except for importance of accuracy. The mean scores of three subscales above the median score of 3.0, meaning that the participants characterized themselves as believed in with respect to the role of teacher feedback \((M = 3.57)\), importance of accuracy \((M = 3.44)\), and nature of English learning \((M = 3.37)\). Among the five factors, students showed the strongest endorsement of the role of teacher feedback. However, mean scores of self-efficacy of English learning \((M = 2.93)\) and importance of grammar learning \((M = 2.40)\) had the below the median, indicating that the students did not endorse their competence to learn English successfully or the benefits of grammatical knowledge and focusing on grammar learning in the L2 class. Although the mean score of the importance of grammar learning factor was showed the lowest among the five, it had the highest value for Cronbach’s alpha, indicating good internal consistency of the item in the scale.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Number of items</th>
<th>Alpha</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1: Self-efficacy of English learning</td>
<td>6</td>
<td>.78</td>
<td>2.93</td>
<td>.59</td>
</tr>
<tr>
<td>F2: Importance of grammar learning</td>
<td>3</td>
<td>.90</td>
<td>2.40</td>
<td>.97</td>
</tr>
<tr>
<td>F3: Role of teacher feedback</td>
<td>4</td>
<td>.72</td>
<td>3.57</td>
<td>.61</td>
</tr>
<tr>
<td>F4: Importance of accuracy</td>
<td>5</td>
<td>.69</td>
<td>3.44</td>
<td>.56</td>
</tr>
<tr>
<td>F5: Nature of English learning</td>
<td>4</td>
<td>.71</td>
<td>3.37</td>
<td>.65</td>
</tr>
</tbody>
</table>

2. The Structural Relationship between Beliefs and L2 Achievement

Prior to examining the structural relationship between learner beliefs and L2 achievement, 64 students’ data, who did not sign the informed consent about the disclosure of their test scores, were excluded from the further analysis. Although some of the five factors had more than three items that loaded strongly (e.g., self-efficacy of English learning and importance of accuracy), the researcher retained only three items for each
factor for the subsequent SEM analysis. The reason for the limitation of the number of indicator variables per factor to three was to have a baseline model that would be less complex (Kouritzin et al., 2009) and that, therefore, would be easily replicable across both gender groups. A total of 15 items were thus used as observed variables for the five latent variables. The mean and standard deviation for each indicator appear in Table 1. The baseline measurement model representing the relationship between five belief factors and English achievement was analyzed using the SEM methodology. Figure 1 displays a visual representation of the initial relations among five latent variables affecting L2 achievement, which shows the five latent variables (ovals) and their representative indicator variables (e.g., questionnaire items shown in rectangles).

In order to test the quality of the model’s fit, the chi-square goodness-of-fit test was used. Since chi-square statistic tends to be inflated in a larger sample size, other fit indices were also reported. The Comparative Fit Index (CFI: Bentler, 1990), which compares the improved fit of the hypothesized model with a null model, was checked. CFI with values that approximate or exceed .95 represents a well-fitting model (Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA, Browne & Cudeck, 1993), which shows the fit between the implied and the population covariance matrix, is a parsimony-adjusted index. A RMSEA less than .05 indicates a good fit, with lower values (i.e., closer to 0) being more desirable.

Table 3 presents model-data fit statistics of each model tested. Model 1, which examined the causal relationships of the baseline measurement model as in Figure 1, resulted in unsatisfactory fit indices ($\chi^2 = 349.20$, $\chi^2/df = 4.16$, $CFI = .87$, $RMSEA = .084$). In Model 2, the structural relationships among latent variables retained the same with those in Model 1, but the direct path between role of teacher feedback and L2 achievement was deleted. The results of Model 2 showed a chi-square of 186.68 with 89 degrees of freedom. The ratio of the chi-square to degrees of freedom ($\chi^2/df = 2.10$) was slightly more than the recommended cutoff value of 2.0 for concluding a satisfactory model-data fit. Other fit statistics ($CFI = .91$, $RMSEA = .069$) also demonstrated unacceptable fit of the model.

Model 3 tested the structural relationships without the importance of accuracy variable in addition to Model 2, which was without the direct path between role of teacher feedback and L2 achievement. The results of Model 3 produced the best fit to the data ($\chi^2 = 103.64$, $\chi^2/df = 1.96$, $CFI = .95$, $RMSEA = .056$) out of the three tested models. This demonstrates that learner beliefs in the role of teacher feedback and importance of accuracy were not significant predictors of their English achievement; instead, these two latent variables played a minimal role in the EFL classroom and thus removed from the model. This final model was used for the subsequent analysis of gender differences.
FIGURE 1
Measurement Model of the Relationship Between Learner Beliefs and L2 Achievement

Note: SE: Self-efficacy of English learning; TF: Role of teacher feedback; GR: Importance of grammar learning; AC: Importance of accuracy; and NA: Nature of English learning

TABLE 3
Model-fit Indices for the Relationship Between Beliefs and L2 Achievement

<table>
<thead>
<tr>
<th>Model</th>
<th>Latent variables</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p-value</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SE, TF, GR, AC, NA</td>
<td>349.20</td>
<td>84</td>
<td>.001</td>
<td>4.16</td>
<td>.87</td>
<td>.084</td>
</tr>
<tr>
<td>2</td>
<td>SE, TF, GR, AC, NA</td>
<td>186.68</td>
<td>89</td>
<td>.001</td>
<td>2.10</td>
<td>.91</td>
<td>.069</td>
</tr>
<tr>
<td>3</td>
<td>SE, TF, GR, NA</td>
<td>103.64</td>
<td>53</td>
<td>.001</td>
<td>1.96</td>
<td>.95</td>
<td>.056</td>
</tr>
</tbody>
</table>

Note: SE: Self-efficacy of English learning; TF: Role of teacher feedback; GR: Importance of grammar learning; AC: Importance of accuracy; and NA: Nature of English learning

Model 3 proved to be the only model that adequately represents the data. The path diagram including path coefficients of Model 3 is presented in Figure 2 for close investigation. All the path coefficients were significant at the alpha level of .05 or .001. Students’ belief in self-efficacy of English learning was the most significant predictor of their English achievement in the Korean EFL context. Furthermore, students’ level of beliefs in the role of teacher feedback showed a positive direct relation to their self-efficacy of English learning, which in turn significantly predicted their English achievement as measured by final exam scores. This means that EFL students who tend to appreciate...
teacher feedback are likely to believe they are capable of performing L2 learning tasks by heightening self-efficacy, and these students tend to have willingness to study the L2, which in turn make a significant contribution to their L2 exam scores. Students’ belief in nature of English learning was a significant predictor of their level of self efficacy of English learning, as demonstrated by the significant path coefficient between the two. This means that students who tend to perceive the characteristics of L2 learning are likely to believe their own competence to learn L2 successfully and reach goals. L2 achievement was also directly influenced by importance of grammar learning, which also played as a mediating role in the relationship between nature of English learning and self efficacy of English learning. Overall, the results of the current SEM analyses revealed that Korean EFL student beliefs in self efficacy of English learning and importance of grammar learning predicted significantly directly their L2 achievement, while role of teacher feedback and nature of English learning were indirectly related to L2 achievement through their direct causal influences on self efficacy of English learning.

FIGURE 2
The Final SEM Model for Learner Beliefs and L2 Achievement

Note: *means significant path loading at $p < .05$ and ** at $p < .001$.

3. Gender Differences in the Structural Relationship

As shown in Table 4, although girls showed a relatively higher mean scores than boys in English scores, $t$-tests produced statistically insignificant differences ($t = -.965$, $p = .335$).
between the two gender groups. However, the model for boys demonstrated a better fit to the data than girls, as evaluated by several fit statistics.

**TABLE 4**

<table>
<thead>
<tr>
<th>Model Fit Statistics for Beliefs and L2 Achievement by Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Boys ($n = 219$)</td>
</tr>
<tr>
<td>Girls ($n = 164$)</td>
</tr>
</tbody>
</table>

Figure 3 presents the path diagram of the SEM model of learner beliefs and L2 achievement for boys. The students’ belief level of *importance of grammar learning* was the most powerful variable in predicting their L2 achievement. The direct relationship between *self-efficacy of English learning* and L2 achievement was also observed. However, *role of teacher feedback* and *nature of English learning* were positively indirectly related to the students’ exam scores through the mediating role of *self-efficacy of English learning*.

![FIGURE 3](image)

The SEM Model for the Boys Group

*Note:* *means significant path loading at $p < .05$ and ** at $p < .001$.

The structural relationships for girls, as shown in Figure 4, demonstrated that students’ L2 achievement showed a significant, positive, direct association with their *self-efficacy of English learning*. However, unlike the SEM model for boys, the standardized parameter estimate for the direct path between *importance of grammar learning* and L2 achievement revealed non-significant. The parameter estimates for the paths between *role of teacher feedbac*
feedback and self-efficacy of English learning and between importance of grammar learning and nature of English learning yielded insignificant results. Students’ belief in nature of English learning was positively indirectly related to their exam scores through the mediating role of self-efficacy of English learning, as demonstrated by the significant path coefficient between nature of English learning and self-efficacy of English learning.

FIGURE 4
The SEM Model for the Girls Group

Note: * means significant path loading at p < .05 and ** at p < .001.

V. DISCUSSION AND CONCLUSIONS

This study has sought to identify Korean EFL high school students’ beliefs about English learning and to examine the causal links between beliefs and L2 achievement. It has furthermore explored the effects of gender on the structural model of belief factors affecting L2 achievement. The results of the factor analysis produced five underlying constructs, which were present in Korean EFL learner beliefs about English learning: self-efficacy of English learning, importance of grammar learning, role of teacher feedback, importance of accuracy, and nature of English learning. This finding provided support to the multidimensional characteristics of L2 belief variables (Horwitz, 1985, 1987, 1988). However, certain belief constructs of the present study (e.g., role of teacher feedback and importance of grammar learning) were socially conditioned and contextually dependent beliefs about how to learn the L2 in the Korean EFL high school context.

The study also found that the mean score of role of teacher feedback (M = 3.57) was the
highest, whereas that of *importance of grammar learning* ($M = 2.40$) was the lowest. This means that the students were the most positive about their teacher intervention, while they were least positive toward the role of grammar in L2 learning. The students’ lowest endorsement of *importance of grammar learning* is in line with several previous studies (Kern, 1995; Kim, 2003; Mantle-Bromley, 1995; Park, 1995), but in contrast with others (Polat, 2009; Yang, 1999). Although the students did not endorse *importance of grammar learning*, they showed a strong belief in the *importance of accuracy* ($M = 3.44$). These two findings appear to contradict each other because the role of grammar instruction in L2 acquisition theory can be framed in relation to an accuracy issue (Ellis, 2006; Long, 1991). However, such findings can be clarified by the following explanations: 1) students’ lack of perceptions about the relationship between accuracy and grammar learning; and 2) their dissatisfaction with the grammar instruction they have received. Students might think that the grammatical accuracy of English production is essential, but the participants who are all high school students could not be convinced that one of the important benefits of grammar instruction is to reduce errors and achieve accuracy by drawing their attention to linguistic elements (Long, 1991). Furthermore, the students might have negative attitudes toward grammar-based teaching in which lots of drills and memorization of arbitrary linguistic rules and an application of those rules in disconnected sentences and exercises have been emphasized. Thus, although students may believe that accuracy while learning L2 is important, they do not know how this accuracy might be achieved.

With regard to the SEM model of the relationship among learner beliefs affecting L2 achievement, the present study produced several important findings. The latent variable *importance of accuracy* did not fit the structural model of L2 achievement as specified in the present SEM analysis. *Importance of accuracy* was neither significantly correlated with *importance of grammar learning* nor directly related with *nature of English learning*, and thus it was deleted in the further SEM analyses. This nonsignificant role in L2 achievement is in line with the previous one (Kim, 2003), which reported that the degree of beliefs in error tolerance did not associate with L2 proficiency.

Both *self-efficacy of English learning* and *importance of grammar learning* were direct, significant predictors of L2 achievement. These findings concerning the importance of self-efficacy in L2 learning provided empirical evidence, which are consistent with the previous findings (Cotterall, 1999; Wenden, 1999). Although the mean score of *self-efficacy of English learning* ($M = 2.93$) was below the median score, indicating that the students did not believe in their competence of learning L2 successfully, this factor was the most significant predictor of L2 achievement. Bandura (1984) claimed that self-efficacy is concerned with persons’ beliefs in their ability and the beliefs in personal efficacy affect task choices, levels of motivation and effort, persistence, and quality of functioning. In other words, students’ perception of self-efficacy such as greater degree of beliefs in their
ability in the L2, about the use of appropriate strategies, and about learning motivation, may lead to L2 achievement (Bandura, 1984; Bandura & Schunk, 1981). Therefore, the present study proved that learners’ self-efficacy of their L2 learning was the most influential factor in L2 attainment.

Although students, as stated earlier, had the least positive beliefs about the importance of grammar learning, the degree of belief about the role of grammar was a significant predictor of their L2 achievement. This is consistent with the previous findings about the benefits of grammar instruction to L2 attainment (Horwitz, 1988; Kim, 2006; Polat, 2009). Furthermore, it is provable that such a positive, direct, statistically significant causal path between importance of grammar learning and L2 achievement may have been attributed to the characteristics of test items of the final exam, which was used for the L2 achievement measure. The final exam consisted of vocabulary, grammar, and reading comprehension items. Horwitz (1988) and Peacock (1999) stated that students with highly positive beliefs about the role of grammar instruction in L2 proficiency may focus on grammar rules while preparing the L2 exam. The students in the present study who deemed the role of grammar important seemed to like grammar learning and as a result study grammar more as opposed to other language skills such as speaking and writing.

According to the final path diagram, role of teacher feedback and nature of English learning were positively, indirectly related to the L2 achievement through the mediating role of self-efficacy of English learning. These results imply that role of teacher feedback or nature of English learning alone are not sufficient to bring out students’ enhanced L2 achievement, although the students strongly endorsed the beliefs about the role of teacher feedback (M = 3.57) and nature of English learning (M = 3.37). Only when the teacher feedback is connected with a higher level of the students’ self-efficacy in L2 learning does the students’ beliefs about the benefits of teacher intervention lead to better L2 exam score. The same pattern was discovered for nature of English learning, meaning that the students with a higher level of perception about the characteristics of L2 learning tend to show a higher degree of beliefs in their ability to succeed in L2 learning, which in turn make an important contribution to their L2 achievement.

The present study found that girls had higher average ability than boys in L2 learning, which is consistent with previous L2 literature concerning females’ superiority (Bacon & Finnemann, 1992; Payne & Lynn, 2011). It also reported that there were gender effects on the causal relationship among belief factors affecting L2 achievement. In other words, student gender operated as a moderator variable, with each path diagram of both gender groups and the magnitude of the path coefficients demonstrating fairly different. The greatest difference showed the boys presenting importance of grammar learning as the most significant predictor of their L2 achievement, while the girls presenting self-efficacy of English learning as the only causal factor in their L2 attainment. Another notable
difference was that the relationship among latent variables for girls nature of English learning alone was directly related to self-efficacy of English learning, while for boys more complex causal relationships were observed. This may suggest that the main reason behind the differences in causal factors influencing L2 achievement between boys and girls relates to contextual effects. Why belief factors affecting L2 achievement differed by student gender is a question in need of further investigation.

In sum, Korean EFL students had a unique set of beliefs about L2 learning, and some of them act as facilitating forces in their L2 achievement, while others played a minimal role in the classroom such as frustration, lack of motivation, and slow progress with L2 learning. The findings of the present study, therefore, may lead to a number of pedagogical implications for L2 teachers. Students’ self-efficacy beliefs should be promoted in a way where the students feel confident about what they can achieve and are highly resilient in relation to failure; and the use of inductive, task-based, communicative, and the contemporary grammar teaching techniques in addition to the traditional ways of teaching and learning grammar should be included in L2 classes (Pae, 2008; Polat, 2009). By identifying student beliefs about L2 learning, classroom instructors can design effective instructional planning and carry out productive lessons; simultaneously, L2 learners can gain self-efficacy of L2 learning and autonomy that lead them to more effective in- and out-of-classroom learning behaviors and positive attitudes toward L2 learning (Cotterall, 1999; Horwitz, 1988; Mantle-Bromley, 1995; Rifkin, 2000; Sakui & Gaies, 1999). In addition, teachers should be prepared to intervene in students to help them develop realistic beliefs in order to promote their L2 learning (Kern, 1995; Peacock, 1999).

As much as the present study has certain limitations, it also provides the potential to offer future directions for further studies. The findings of the study can only be generalized to students at high schools in a region of Korea since implementing a research design and using a research instrument developed for a specific research site in another setting can lead to doubtful analyses and results. Had the self-reported data triangulated with secondary sources, for example, interviews, classroom observations, and documents been collected, more in-depth analyses regarding the reasons behind the construction of beliefs, particularly with gender differences in the structural model would have been possible. A combined research design of quantitative and qualitative methodologies for further research, as suggested by Kern (1995), will not only allow opportunities to cross-validate instruments but also assist the identification and interpretation of more reliable learner belief factors. Finally, the responses of the participants in both genders might have within-group variance due to the individual differences. These individual differences might distort the students’ perceptions about the survey items and consequently could produce discrepancies in results. Future research can investigate the nature of possible individual difference-related reasons behind the discrepancy.
REFERENCES


Applicable levels: secondary education
Key words: learner beliefs, L2 achievement, structural equation modeling, gender difference

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