A Study of Factors Contributing to English Speaking Proficiency: Comparing Japanese High School and University Students’ Speaking Factors

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Abstract

The aim of this paper is to pursue predictors contributing to speaking proficiency in high school and university settings, which is expected to be contributory to further research of English language teaching. In this paper, the data obtained were computed and the multiple regression analysis was conducted with the results of the “topic-based test”, which was the dependent variable, and the other tests plus eight metacognitive factors were the independent variables. The result showed that the differences between the two levels of contributing factors exhibited an intriguing result from the linguistic and metacognitive perspectives. In regard to high school students’ speaking proficiency, the predictor, Comprehensive English ability had a statistical significance to speaking, whereas the factor didn’t emerge as a crucial predictor in university students’ speaking proficiency. Regarding Grammatical ability, the data showed the negative significance in the high school setting and the positive significance in the university setting. As far as the metacognitive aspect is concerned, the divergent results turned out as follows: ‘Lack of linguistic processing ability’ in high school, and ‘Anxiety about delivery ability’ etc. in university.

1 Background

English language education in Japan is faced with a big transitory period these days. The Ministry of Sports, Science, Technology, and Education announced the implementation of “The Strategic concept for development of Japanese people who are able to use English” in 2002. The Ministry set up the target value of English ability which Japanese teachers of English should have; that is, English teachers need to have a pre-1 level of English proficiency. This is obtained through a test called STEP (the test is conducted by The Society for Testing English Proficiency, a standardized English proficiency test administered
nationwide in Japan). Based upon this announcement, the Board of Education in each prefecture has started to conduct a wide range of seminars to enhance English teachers' target language ability and leadership. It implies that it is of great importance for teachers to nurture their practical communication ability in order to elevate their productive English proficiency, thereby enabling learners to develop their oral production ability. To this end, the teachers should pursue the methodology for the aim; at the same time, they should construct theoretical concepts for improving learners' speaking proficiency while developing the teaching methodology.

2 Literature Review

Speaking, as well as reading, writing, and listening, covers a broad spectrum of research areas. Firstly, the relationship between speaking and the three other proficiencies has also been gradually explored (Fukazawa, Ozasa, Matsuo & Fukutoku 2002, McEvoy 2002, Uenishi 2003, etc.).

As far as speaking components is concerned, there seem to be few studies on predictors contributing to speaking proficiency including metacognitive awareness. Above all, Nakamura (1993) and Ozasa (2002) conducted research on components of university students' speaking proficiency. More specifically, as with the former Nakamura's research, predicated on Bachman's research, which showed that sub-components of speaking proficiency data were obtained and analysed through a broad spectrum of speaking tests. As a result, Nakamura postulated through his research, that speaking proficiency is fundamentally composed of two parts: linguistic skill, and interactive and socio-linguistic skill.

The latter researcher, Ozasa sought out components of speaking ability, adding up other factors which can affect the speaking proficiency, such as motivation and learning environment. The paper provides us with the following intriguing result; that is, no significant linguistic components emerged as an explanatory factor, but one of the non-linguistic components, the so-called "Intrinsic Motivation", appeared as the speaking factor. Although Ozasa's research showed the instructive results to the pedagogic field, we cannot deny the effect of linguistic aspects on speaking proficiency, as Nakamura claimed in his research. Given the perspective, we should regard it not only as the whole linguistic ability, but explore what factors of linguistic ability have more of an effect on learners' speaking. Furthermore, since metacognitive factors in speaking have scarcely been the focus hitherto in this research field, explanatory factors should be explored.
3 Research Method

3.1 Research Objectives

It seems to the present writer that based upon the background and the previous research, it is of great importance to explore factors contributing to speaking proficiency in high school and university settings, which will contribute to further research in English language teaching. Below are the objectives of the present study on factors contributing to speaking proficiency:

1. What linguistic and metacognitive predictors contribute to students' speaking proficiency in the university setting?
2. What diverse speaking predictors emerge in the high school and university settings?

3.2 Subjects

The participants in this study were 74 freshmen attending the International Course in a public high school in Hiroshima and 42 juniors from a state-run university. Among subjects who took the tests offered, there were 70 high school students and 36 university students who appropriately took all the tests and answered the questionnaires. With regard to students' English proficiency levels, high school students were highly motivated to learn the target language, English, and their English proficiency levels ranged from the upper elementary to the intermediate. On the other hand, university students, almost all of whom had studied abroad, reached the post-intermediate level, ranging from the pre-1 to the second grade of the STEP test.

3.3 Test Method

Below is a list of several types of English proficiency tests (See Appendix 1 for sample questions) and the questionnaire conducted in terms of metacognitive speaking ability, including delivery strategies.

1. Speaking Test
   As mentioned in the test administered for high school students, the test was executed using a topic-based test in which participants were asked to describe their hobbies or what they like in their daily life.

2. Listening Test (50 questions)
   The Comprehensive English Language Test (CELT-A) was utilised as the listening test.

3. Vocabulary Test (30 questions)
   The test was developed from the STEP test, conducted in 1997, using the pre-1 level, and the third and pre-second level, for the university students and the
high school students respectively.

4. Grammar Test (38 questions)
   The test was administered with CELT-A.

5. Cloze Test (30 blanks)
   The test was produced on the basis of the pre-second level and third level of the
   STEP test, administered in 1997, for the university students and high school
   students respectively, and every one in seven words was blanked out.

6. Questionnaires on metacognitive awareness in speaking (cf. Appendix 2)
   The questionnaire was produced referring to metacognitive items by Oxford
   (1990) and Ishihara (1999).

Once the topic-based test was completed, the questionnaire was administered in
order to collect data on subjects' metacognitive ability in regard to speaking. The data were
then analysed using SPSS factor analysis, with the result that eight metacognitive factors
were obtained. The data obtained were analysed using multiple regression analysis,
computed with speaking proficiency as the dependent variable, and other linguistic
proficiencies and non-linguistic factors as the independent variables.

Regarding the evaluation of the speaking test, evaluation criteria were produced
particularly based on SST (Standard Speaking Test) developed in cooperation by ACTFL
(American Council on the Teaching of Foreign Languages) and ALC (Japan). Below are
eight evaluation criteria:

- Content
- Cohesion
- Utterance Pattern
- Fluency
- Correctness (Grammar)
- Understandability
- Pronunciation (Accent)
- Number of Delivery Words

As aforementioned in the high school students' speaking test, the test takers were
evaluated using the 5-point Likert scale by two teachers: an assistant language teacher from
America and a Japanese teacher of English. The evaluation standard was as follows: 5
(excellent), 4 (good), 3 (average), 2 (fair) and 1 (poor). To confirm the reliability of the two
raters, the Pearson's correlation coefficient was computed. As a result, the inter-rater
reliabilities between the two raters in the high school and university settings were .65 (p<.01)
and .82 (p<.01) respectively, which are considered to be acceptable for the evaluation of
speaking performance.

4 Results and Implications

4.1 Factor Analysis
   As mentioned above, soon after the speaking test, the questionnaire was
   administered in order to collect data on high school students' metacognitive awareness with
   regard to speaking; then, the factor analysis was conducted using the collected data. The
following eight metacognitive factors on oral production appeared and Table 1 shows the variance and reliability of each factor.

Factor 1  Focus on oral production contents
Factor 2  Positive attitude toward communication
Factor 3  Lack of linguistic processing ability
Factor 4  Recognition of comprehensive vocabulary knowledge
Factor 5  Speaking strategies
Factor 6  Grasping structure and vocabulary recognition
Factor 7  Anxiety about word pronunciation
Factor 8  Communication strategies and grasping background knowledge

**Table 1  Factor Analysis for High School Students**

<table>
<thead>
<tr>
<th></th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>F7</th>
<th>F8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>.852</td>
<td>.748</td>
<td>.771</td>
<td>.805</td>
<td>.611</td>
<td>.615</td>
<td>.639</td>
<td>.385</td>
</tr>
</tbody>
</table>

On the other hand, regarding university students, the factor analysis was again conducted using the collected data and the following eight metacognitive factors on oral production emerged. Table 2 below shows the variance and reliability of each factor.

Factor 1  Focus on oral production contents and speaking strategies
Factor 2  Communication strategies and anxiety about word pronunciation
Factor 3  Lack of grasping the whole and less knowledge
Factor 4  Recognition of comprehensive vocabulary knowledge
Factor 5  Positive attitude toward communication and grasping background knowledge
Factor 6  Anxiety about delivery ability
Factor 7  Negative attitude toward communication and understanding grammatical structure
Factor 8  Grasping linguistic knowledge

**Table 2  Factor Analysis for University Students**

<table>
<thead>
<tr>
<th></th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>F7</th>
<th>F8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>.803</td>
<td>.708</td>
<td>.750</td>
<td>.741</td>
<td>.524</td>
<td>.449</td>
<td>.550</td>
<td>.483</td>
</tr>
</tbody>
</table>

4.2  Multiple Regression Analysis

The multiple regression analysis, using SPSS 9.0, was conducted with speaking proficiency as the dependent variable, and the other linguistic abilities: vocabulary, grammar,
listening and comprehensive English ability (cloze test), as well as eight metacognitive factors as the independent variables. Consequently, the data results shown in Table 1 were obtained. (Only significant variables appeared here.)

4.2.1 High School Students' Analysis

As a result of data analysis, it was revealed that Factor 3, 'Lack of linguistic processing ability,' significantly contributed to speaking proficiency. Specifically, Factor 3 was an important negative predictor of speaking proficiency and accounted for (−)47.5% (p<.001) of the variance, which predicted that the factor had a significant influence on speaking proficiency. From the viewpoint of the linguistic aspect, the data result demonstrated that the comprehensive English ability measured by the cloze test was a significant predictor which explained students' English proficiency. Concretely, this consequential predictor explained an additional standardized coefficient 46.5% (p<.005) of the variance. Additionally, the other crucial linguistic predictor, grammatical ability, showed a negative significant difference and accounted for (−)33.3% (p<.05).

Table 3 Multiple Regression Analysis for Extracted Factors (High school students)

<table>
<thead>
<tr>
<th>Model</th>
<th>β</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>-.333</td>
<td>-2.219*</td>
<td>.030</td>
</tr>
<tr>
<td>Cloze</td>
<td>.465</td>
<td>3.268***</td>
<td>.002</td>
</tr>
<tr>
<td>Factor 3</td>
<td>-.475</td>
<td>-4.202****</td>
<td>.000</td>
</tr>
</tbody>
</table>

*: p <.05  ***: p <.005  ****: p <.001

4.2.2 University Students' Analysis

When answering the first research question, 'What linguistic and metacognitive predictors contribute to students' speaking proficiency in the university setting?', it was explicated in university that there were three significant predictors to speaking: Grammatical ability as a linguistic factor, Factor 7, 'Negative attitude toward communication and understanding grammatical structure', and Factor 6, 'Anxiety about delivery ability' as negative metacognitive ability factors.

One almost-significant predictor to speaking was Factor 1, 'Focus on oral production contents and speaking strategies'. The analysis, as illustrated in Table 4, indicated that the R square value was .436 (p<.005); that is, 43.6% of the variance of speaking proficiency was
explained by the four independent variables below in this present research. The data result demonstrated the following ramifications:

From the perspective of language ability, the results showed that grammatical ability was statistically significant with a \( \beta \) value of .331 \((p<.05)\), whereas from the standpoint of metacognitive ability, Factor 7 and Factor 6 were statistically negatively-significant with \( \beta \) values of -.352 \((p<.05)\), and -.331 \((p<.05)\) respectively. It is inferred that since the predictors were obstructive factors in speaking proficiency, their negative significance implied that since the university students have reached the phase of using English without any concern about grammar and have gained a more positive attitude toward communication, they will be more able to properly speak the target language. It is also suggested that the students who could articulate the words with greater confidence tended to have a better English speaking proficiency. Regarding one more metacognitive factor, Factor 1 ‘Focus on oral production contents and speaking strategies’, the predictor was close to being statistically significant with a \( \beta \) value of .292 \((p<.10)\).

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Multiple Regression Analysis for Extracted Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(University students)</td>
<td></td>
</tr>
<tr>
<td>R=.660 \hspace{1cm} R square=.436 \hspace{1cm} F=5.987 \hspace{1cm} ( p &lt;0.05^{***} )</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>( \beta )</td>
</tr>
<tr>
<td>Grammar</td>
<td>.331</td>
</tr>
<tr>
<td>Factor 1</td>
<td>.292</td>
</tr>
<tr>
<td>Factor 6</td>
<td>-.331</td>
</tr>
<tr>
<td>Factor 7</td>
<td>-.352</td>
</tr>
</tbody>
</table>

\( +=p <.10 \hspace{1cm} *=p <.05 \hspace{1cm} ^{***}:p <.005 \)

4.2.3 Comparison between High School and University Students

In regard to the second research question, ‘What diverse speaking predictors emerge in the high school and university settings?’, the differences between the two were described as follows.

Firstly, the differences between the two levels of contributing factors exhibited an intriguing result from the linguistic perspective. In regard to high school students’ speaking proficiency, the predictor, Comprehensive English ability had a statistical significance to speaking, whereas the factor didn’t emerge as a crucial predictor in university students’ speaking proficiency. Moreover, although high school students’ grammatical ability was statistically negatively-significant \((p<.05)\) as a predictor of speaking, the linguistic aspect
was statistically positively-significant ($p<.05$) for university students. Even though the high school learners grasped certain grammatical items, caring too much about their grammar and peers seemed to have propensity to create difficulties in oral production. Furthermore, given the results, the aspects of grammatical ability might have to be discussed. There is a possibility that a certain aspect of learners' grammatical ability was measured, which led to the result of the negative significance of grammar, since the CELT-A, a higher level of the test for high school students, was administered in this paper. On the contrary, the statistically positive-significance of university students' grammatical ability, demonstrated that learners with better grammatical ability ended up conveying the contents appropriately. In other words, the data results showed that we should recognise afresh the necessity of sufficient grammatical ability in speaking.

Secondly, the differences between the two levels of factors contributing to speaking proficiency are discussed from the perspective of metacognitive ability. As for high school students, Factor 3, ‘Lack of linguistic processing ability’ appeared as a negative factor predicting speaking proficiency. More specifically, it could be said that what disturbed the students’ speaking varied from vocabulary to grammar and linkage of sentences.

On the other hand, with regard to university students, recognition of their speech with a higher level of metacognitive ability had a closer relation to speaking proficiency. As a typical example, Factor 1, ‘Focus on oral production contents and speaking strategies’ was statistically almost-significant as a predictor contributing to speaking proficiency, whereas in the high school setting, speaking strategies were not (almost) statistically significant as a predictor of speaking. Furthermore, it is conjectured that the appearance of Factor 6 and 7 as negative predictors of speaking proficiency displayed the necessity of both a higher level of linguistic and non-linguistic components in addition to the basic items of English learning. This demonstrated that psychological factors in oral production as well as general English ability were more related to speaking proficiency than other factors.

5 Conclusion

This paper compared predictors contributing to high school and university students' speaking proficiency including metacognitive factors. Consequently, the two research questions are concluded as follows.

It is first clarified that grammatical ability was the only common predictor between high school and university students’ speaking proficiency. (However, this was a negative predictor in high school students.) In this respect, it is inferred that the importance of teaching grammar in the pedagogic field should be recognised afresh even if further research needs to be performed. Other significant factors were different in high school and university (See Results and Implications). What characterised predictors of high school
students' speaking proficiency was that the factors had to do with linguistically-related elements even in metacognitive ability.

Conversely, it was revealed that the university students' speaking proficiency had a close correlation to more metacognitive predictors. As mentioned above, the comparison between the two levels of students manifested different linguistic and metacognitive predictors to speaking proficiency. It implies that if teachers who teach the language remove as many obstructive factors as possible (e.g. inappropriate learning environment where they feel peer pressure about making mistakes) according to learners' English proficiency, it will possibly have a beneficial effect on the improvement of their speaking proficiency.

With the aforementioned in mind, the present writer believes that in order to corroborate the discussion in this paper, we should implement the teaching focused on speaking predictors in which we facilitate learners’ enhancement of speaking proficiency. Though this paper demonstrated certain speaking predictors, the conclusion is not necessarily satisfactory to clarify pregnant predictors of speaking proficiency. From now on, other factors which are expected to be statistically significant such as pronunciation and productive vocabulary should be introduced into the research; the data result should be analysed with the multiple regression analysis. Only then will it enable us to advocate a new factor-centered teaching for improving speaking proficiency in the future.

References


Appendix 1 Test samples for university students

1. Listening Test
   Listen to the tape and choose the appropriate answer for the question asked.
   The tape says: “When are you going to New York?”
   (A) To visit my brother.  (B) By plane.  (C) Next Friday.  (D) Yes, I am.

2. Vocabulary Test
   Choose the suitable word among (1) through (4).
   (1) ( ) leather coats! On sale for only $199.99!
      1 Genuine  2 Honest  3 Valid  4 Actual

3. Grammar Test
   Choose the suitable word among (A) through (D) to fill in the blanks.
   “Did you have lunch with your brother yesterday?”
   “No. I waited ( ) two hours, but he never came.”
   (A) by (B) since (C) for (D) until

4. Cloze Test
   Follow the example and write the suitable word in each blank.
   Did you know that though we spend about one-third of our lives sleeping, scientists are still not sure why we need (1) sleep? Research shows that our body (2) repair itself when we are lying (3) and watching television, for example. ...

Appendix 2 Sample questions on metacognitive awareness

Please answer the following questions based on your action and idea while taking the speaking test.

1. You were able to expect the content of the story while speaking.
2. You were able to deliver the important part of the story.
3. You were able to convey the detail of the story.
4. Your knowledge was useful when you were speaking.
5. On the whole, you spoke well about the content.