An Empirical Study on Streaming in English Class

—— With a Focus on the Relationship between Language Learning Anxiety and Achievement ——

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Abstract

This research was conducted to clarify the relationship between a learner factor and achievement in English, following Hosaka's research (2004, 2005, 2007) .

In this study, statistical analyses were conducted to clarify the differences between upper-and lower-level students concerning the relationship between an affective variable (language learning anxiety) and achievement in English .

Firstly, according to the results of the factor analysis, there are three factors in language learning anxiety; *Performance Anxiety, English Confidence* and *Non-understandable Class Anxiety.* Secondly, according to the results of multiple regression analysis conducted with all data, Performance Anxiety had a strong negative effect on achievement in English. Thirdly, according to the results of multiple regression analysis, conducted to compare the relationship between upper- and lower-level students concerning language learning anxiety and their achievement in English, Performance Anxiety had a negatively stronger effect on achievement among the upper-level students. Not a factor of language learning anxiety had a significant effect on achievement among the lower-level students.

Finally, the results may conclude that reducing Performance Anxiety in English class as much as possible may lead to a success in learning English.

Key words: streaming, senior high school students, language leaning anxiety, achievement in English, empirical study

1. Introduction

In December 2000 the National Committee on the Reform of Education suggested that streaming should be introduced into elementary, junior high and senior high schools in Japan as soon as possible in the 21st Renewal Plan on Education. Sato (2003) observed that streaming has rapidly spread all over Japan in a few years.

The objective of this study is to clarify how English teachers perform in and manage English

classes, which have been “streamed” according to students’ achievement in English, especially with relation to more affective learner factor than Hosaka (2005) did.

2. Background

Hosaka (2005) has also revealed the relationship among learner variables (learning styles, learning motivations and learning strategies), teacher expectations and achievement in English. In that study, path analyses were conducted to clarify the differences between upper-and lower-level students with regard to this relationship. According to the results, lower-level students often use memory strategies to improve their achievement, but in fact these strategies have no significant effects ($p < .05$) . On the other hand, upper-level students often use meta-cognitive strategies, which have a significant effect upon their achievement in English.

With reference to Brown (2000) and others, the other affective and cognitive factors are thought to have a significant effect on achievement in language learning. A great deal of research on language learning anxiety has been conducted since the 1980s. Horwitz and others (1986) developed a questionnaire to measure language learning anxiety (FLCAS; Foreign Language Classroom Anxiety Scale). Furthermore, MacIntyre & Gardner (1989) also developed a questionnaire called FUA (French Use Anxiety). Most of the research concludes that “ foreign language anxiety can be distinguished from the other types of anxiety and that it can have a negative effect on the language learning processes” (MacIntyre & Gardner, 1991b, p.112).

3. Objectives

The objectives of the present study are:

1. To single out factors in academic high school students’ language learning anxiety.
2. To clarify which factors in lower-and upper-level students have influenced their achievement in English.
3. To clarify the differences between the two levels of students’ path diagrams to reflect the aforementioned influences.

4. Method

4.1 Participants

The research was carried out on the same 11th grade students, as in Hosaka’s previous study (2004). The participants were only second-year students because first-year students are very similar to junior high school students. Furthermore, through analyzing the data, it was discovered that the results of the third year students are generally influenced by entrance exams.

The population is 167.

4.2 Upper level and lower level

I adopted the scores of the students in English II at the end of the second school year since the scores could be regarded as representative of their progress in English II throughout the whole year. The average (x) is 52.18 points (full score is 100 points) and the SD (Standardized Deviation) is 17.75 points. The maximum is 96 and the minimum is 16. I divided the whole population into three groups, according to the average and the SD. The upper level is generally more than x + SD/2 and the lower level is generally less than x + SD/2. The upper level ranges from 61 to 96 and the population is 57. The lower level ranges from 16 to 42 and the population is 52.

4.3 Factor analysis

In this study, two typical questionnaires with a 5-point Likert scale were used for factor analyses. Then an exploratory factor analysis was performed, not a confirmatory one.

The questionnaire, which was developed by Horwitz and others (1986, Appendix 1) was used to collect data. Then an exploratory factor analysis was performed with the data.

4.4 Multiple Regression Analysis

The independent variables were factor scores calculated from the factor analyses on language learning anxiety conducted above. The dependent variables were the scores students earned in English II. First a regression analysis was conducted with all students' data. Subsequently, two regression analyses were conducted with only upper-level or of lower-level students' data.

5. Results

5.1 Factor analysis

5.1.1 Factor analysis (language learning anxiety)

A factor analysis was performed to detect the underlying structure of FLCAS's thirty-three items (Appendix 2). Principal factor method with varimax rotation was performed on the thirty-three items. The initial run produced three factors with eigen value greater than one. The subsequent analysis also specified the number of factors as three with a factor loading of .40 (41.14 percent of the variance) .

Factor I (A 1) obtained loadings from 9 variables (items 20, 12, 23, 27, 13, 3, 31, 17 and 7, see table 1). Almost all the 9 items were concerned with performance anxiety in English lessons. Therefore, we unambiguously labeled this factor *Performance Anxiety*.

Factor II (A 2) obtained loadings from 5 variables (items 32, 18, 28, 14 and 24, see table 1). The two highest loadings were concerned with confidence in all the fields of English, including speaking English with native speakers and participating in English lessons. Therefore, we

unambiguously labeled this factor *English Confidence*.

Factor III (A 3) obtained loadings from 5 variables (items 29, 15, 33, 22 and 30, see table 1). The three highest loadings were concerned with anxiety toward non-understandable English lessons. Item 22 was negatively loaded on this factor. Therefore, we unambiguously labeled this factor *Non-understandable Class Anxiety*.

5.2 Multiple Regression Analysis.

The result of a multiple regression analysis with all students' data is summarized in Figure 1 (Appendix 3). The only significant path arrow is depicted in the figure ($p < .001$). The figure tells us an interesting result below. A1 (*Performance Anxiety*) has a direct negative effect on score.

5.2.1 Upper-level students

The result of the multiple regression analyses is summarized in Figure 2 (Appendix 4). The only significant path arrow is depicted in the figure ($p < .01$). The figure tells us that A1 (*Performance Anxiety*) has a direct negative effect on score.

5.2.2 Lower-level students

None of the factors have a significant effect on achievement in English (scores) ($p < .05$).

6. Discussion and Conclusion

We can apply the above results to make streaming classes more effective, or to cultivate elementary level students up to advanced level.

In the end there is only one factor, which has a strong negative effect on scores: *Performance Anxiety*. As for *Performance Anxiety*, the standardized regression coefficient of the analysis of upper-level students was higher than that of all students. The upper-level students are usually trying to take entrance exams for prestigious universities. As a result, they regard English exams to be difficult but critical for them to enter university. On the other hand, lower-level students may tend to avoid choosing English as a subject of entrance exams.

Judging the results objectively, we may come to the conclusion that reducing students' Performance Anxiety is very effective in raising scores. Reducing performance anxiety is one of the most important skills outstanding teachers generally have, as Goshi (2005) and Burden (2004) stated.

In further research, I will try to find the cognitive or affective learning language variables, which are the most effective in reducing Performance Anxiety in English class. This is also a mission for English teachers. Intrinsic motivation or meta-cognitive strategy may be good factors to reduce language learning anxiety.

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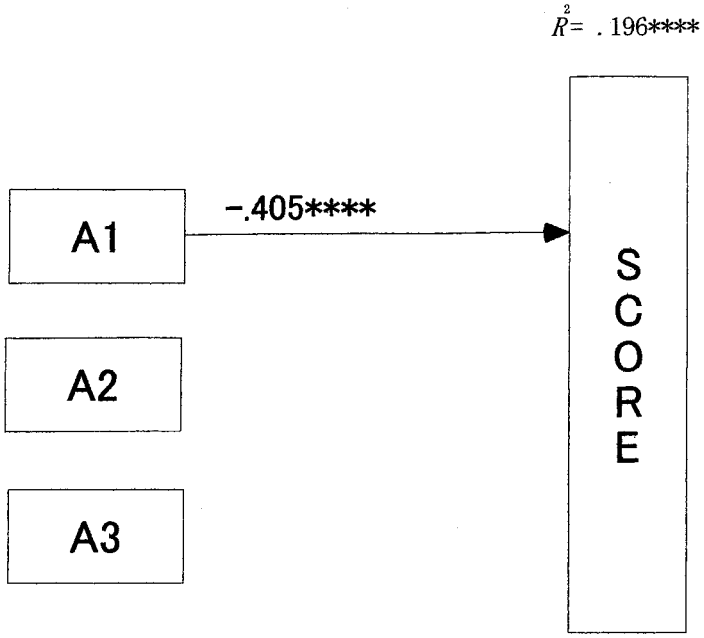
Appendix 1:FCLAS (Horwitz and others ,1986, translated by the author)

1.英語の授業の中で英語を話すとき、自信がない。
2.英語の授業で間違いをしても平気である。
3.英語の授業で当てられそうになるのがわかると身震いがする。
4.英語の先生がいっていることがわからない時に恐れを感じる。
5.英語以外の外国語の授業を受けてみたい。
6.授業中、授業と全く関係のないことを考えることがよくある。
7.他の生徒が、自分より英語がよくできると思う。
8.英語のテスト中、不安を感じることがよくある。
9.英語の授業で準備なしで英語を話さなければいけないとき、あわてる。
10.英語の単位を落とすのではないかと不安を感じる。
11.英語の授業のことでいらいらしている人のことが私には理解できない。
12.英語の授業中とても緊張するので、知っていることでさえも忘れる。
13.英語の授業で積極的に質問に答えていくのは恥ずかしい。
14.外国人（の先生）と話すのに、緊張することはほとんどない。
15.先生が訂正している内容が分からない時いらいらする。
16.たとえ英語の授業の準備を十分しているときでも、授業に不安を感じる。
17.英語の授業に出たくないとよく感じる。
18.英語の授業中、英語で話すことに対して自信がある。
19.英語の先生が自分の間違えを次々訂正するのではないかと不安に思う。
20.英語の授業で当てられそうになったとき、心臓がどきどきする。
21.英語のテスト勉強をすればするほど、ますます頭の中が混乱してくる。
22.英語の予習を十分しなければいけないというプレッシャーは感じない。
23.自分より他の生徒の方が、英語を上手に話すといつも感じている。
24.他の生徒の前で英語を話すことに対して、自意識過剰になる。
25.英語の授業の進路が速いので、取り残されることが心配だ。
26.他の授業より英語の授業の方が緊張する。
27.英語の授業の中で、自分が英語を使っているとき緊張し頭の中が混乱してくる。
28.英語の授業の前には、自信がみなぎり、リラックスする。
29.先生の言っていることがよくわからない時は、落ち着かない。
30.英語をうまく話すようになるための文法や発音などの規則の多さに圧倒される。
31.自分が英語を話すときに、他の生徒に笑われるのではないかと心配だ。
32.英語を話す外国人と一緒にいると、どちらかといえば居心地の良さを感じる。
33.自分が前もって準備していない質問を尋ねられると、緊張する。

Appendix 2:Table 1 (Results of a factor analysis)

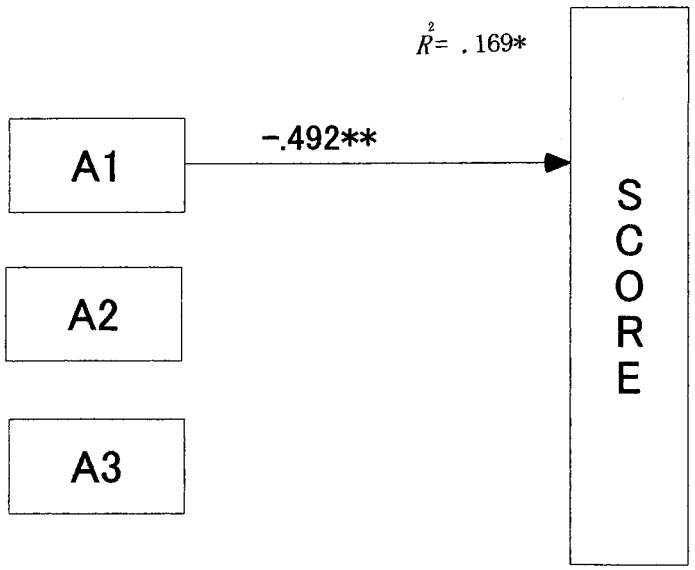
	A 1	A 2	A 3
Q20	**.655**	–.233	.291
Q12	**.586**	.057	.327
Q23	**.580**	–.358	.020
Q27	**.567**	–.066	.306
Q13	**.534**	–.284	.145
Q3	**.524**	–.084	.252
Q31	**.503**	.079	.268
Q17	**.492**	.084	.048
Q7	**.488**	–.308	.185
Q32	–.053	**.700**	–.022
Q18	–.302	**.681**	–.190
Q28	–.085	**.596**	–.042
Q14	–.136	**.521**	–.112
Q24	.229	**.452**	–.015
Q29	.119	–.113	**.792**
Q15	.295	.189	**.542**
Q33	.381	–.236	**.510**
Q22	–.179	.195	**–.472**
Q30	.352	–.285	**.441**
因子寄与率	17.354	12.586	11.195
α係数	.8308	.7245	–.7440

Appendix 3: Path diagram of all students (Figure 1)



(n=167, **** p< .001)

Appendix 4: Path diagram of upper-level students (Figure 2)



(n=57, *p< .05, ** p< .01)