Motivation, learning style, and foreign language anxiety

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Several studies have investigated motivation, learning style, and language anxiety, but there have been few studies on the direct relationship between them. The instruments used in this study were three questionnaires on foreign language anxiety (Kondo & Yang, 2003), learning style (Fujita, 2002), and motivation for learning English as a foreign language (EFL) (Kubo, 1997). To determine which types of learning style and motivation best predict the students' foreign language anxiety, this study investigated the relationship between (a) learning style and foreign language anxiety and (b) motivation for learning EFL and foreign language anxiety among Japanese university students. This study indicates that students who have practical learning style, practical reasons, and intellectual satisfaction tend to have lower levels of foreign language anxiety.

いくつかの研究が動機づけ、学習スタイルおよび言語不安を調査しているが、それらの直接的な関係を調べている研究は今までほとんど行われていない。ゆえに、本研究ではどの学習スタイルおよび動機づけのタイプが学生の外国語不安に最も影響与えるのかを調べるため、日本の大学生の(a)学習スタイルと外国語不安および(b)EFL学習動機づけと外国語不安の関係を調査した。その結果,実用的な学習スタイルおよび英語学習に対する実用的な理由を持ち、知的満足を感じている学生は外国語不安が低い傾向にあることが明らかになった。

Motivation, learning style, and anxiety

Foreign language anxiety is becoming more important in second language acquisition (SLA) studies. Anxiety in general is known to be detrimental to performance on tasks that require attention and deliberate effort (Roccas & Brewer, 2002). Horwitz, Horwitz and Cope (1986) defined anxiety as a "subjective feeling of tension, apprehension, nervousness, and worry" (p. 125). Studies on foreign language anxiety have shown that it is negatively related to foreign language learning (e.g., Aida, 1994) and to student self-ratings of second language proficiency (Macintyre, Noels, & Clément, 1997).
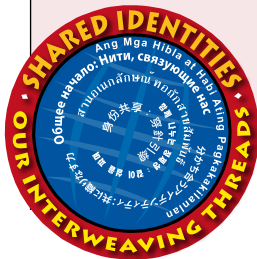
Learning style has generated considerable attention and research as a means of identifying the significance of various individual characteristics (Hyland, 1993). Learning style refers to an individual's natural, habitual and preferred ways of learning (Hyland, 1993). There have been a number of studies on learning styles (e.g., Reid, 1987; Stebbins, 1995) in EFL. Several researchers (e.g., Hyland, 1993; Fujita, 2002) have investigated the learning style of college level Japanese students of English. Hyland's (1993) replication of Reid's (1987) study revealed that Japanese students exhibit no major learning style but have multiple minor learning styles. Bailey and Daley (1999) investigated relationships between foreign language anxiety and learning style. They found that "students who are not responsible in attempting assignments and who preferred not to learn in cooperative groups tended to have higher levels of foreign language anxiety" (Bailey & Daley, 1999, p. 63). They clarified that there is some relationship between foreign language anxiety and learning style.

Virtually all language teachers want to motivate their students to study languages. *Motivation*, "the process whereby goal-directed activity is instigated and sustained" (Pintrich & Schunk, 2002, p. 5), is one of the most important factors that influence the rate and success of language learning (Dörnyei, 1998). Some studies (e.g., Brown, Robson, & Rosenkjar, 2001; Gardner, Masgoret, Tennant, & Mihic, 2004) have investigated motivation and language anxiety.

To date, several studies have investigated motivation, learning style, and foreign language anxiety, but there have been few studies on the direct relationship between them. Thus, this study investigated which types of learning style and motivation best predict the students' foreign language anxiety among Japanese university students.

Research purpose of the study

To determine which types of learning style and motivation to learn EFL best predict the students' foreign language anxiety, this study investigates the relationship between (a) learning style and foreign language anxiety and (b) motivation for learning EFL and foreign language anxiety among Japanese university students. It is hypothesized that specific learning style and motivation are correlated with anxiety. The following research questions are addressed:

1. Which variables of learning style best predict students' foreign language anxiety?

2. Which variables of motivation best predict students' foreign language anxiety?

Method
Participants

The participants in this study were 91 sophomores enrolled in English language courses as a required subject. Their ages ranged from 19 to 21. They were all native speakers of Japanese and had studied EFL through formal instruction at school for at least seven years.

Materials

The instruments used in this study were three questionnaires on foreign language anxiety (Kondo & Yang, 2003),

learning style (Fujita, 2002), and motivation for learning EFL (Kubo, 1997). Responses to items in the questionnaires were recorded on a 4-point Likert-type scale ranging from "strongly agree" (4) to "strongly disagree" (1).

Foreign language anxiety

Anxiety was measured by an 18-item questionnaire developed by Kondo and Yang (2003). Sample questions (see Kondo & Yang, 2003 for details) included: *I am anxious whether I can follow the class. I am afraid that classmates will laugh at my English.*

Learning style

Learning style was measured by a 31-item questionnaire developed by Fujita (2002) and based on Kolb's (1984) suggestions about two dimensions of cognitive development－the active-reflective dimension and the abstract-concrete dimension. Sample questions (see Appendix 1) included: *When I learn new things, I imagine the scene where I use it practically. Logical correctness is important for me.*

Motivation

Motivation was measured by a 22-item questionnaire developed by Kubo's (1997) and based on self-reporting motivation scales created by Ichikawa for Japanese high school students. The sample questions (see Appendix 2) included: *I cannot feel fulfilled if I do not study English. I can get knowledge and skills about language if I study English.*

Results

The returned questionnaires were coded, and the collected data was analyzed using the Statistical Package for the Social Sciences (SPSS) computer program.

Foreign language anxiety

The overall scores from the questionnaire developed by Kondo and Yang (2003) were used as a subscale to measure strength of anxiety. The scale was subjected to a reliability assessment. The Cronbach alpha for the scale was found to be .93, which was very satisfactory.

Learning style

Factor analysis, a technique for identifying groups, was conducted to assess the underlying structure for the 31 items in Fujita (2002). Promax rotation, an oblique rotation method, was used to make the factors more interpretable. Five factors were extracted (See Appendix 1). Items 3, 11, 13, 16, 17, 24, 27, 28, 29, and 31, highly loaded on over two factors or failed to load (above .30) on any one factor, were eliminated. A final factor analysis was conducted on the remaining 21 items and produced five factors, accounting for 54.80 % of the total variance. The first factor obtained high loadings from the following five variables (items 9, 10, 12, 19, and 20), e.g., "When I learn new things, I imagine the scene where I use it practically".   It seems to represent various dimensions reflecting practical learning style. Therefore, factor 1 can be called Practical Style. The second factor obtained high loadings from six variables (items 14, 22, 23,4,15, and 25), e.g., "Logical correctness is important

for me". This factor seems to represent a dimension reflecting logical thinking. Thus, factor 2 can be named Logical Style. Factor 3 was determined by appreciable loadings on 2 variables (items 6 and 7). While item 7 "I decide procedures before starting tasks" loaded highly in a positive direction on the third factor, item 6 "I decide to do something on the spot" loaded highly but in a negative direction. Thus, factor 3 can be called Procedural Style. Factor 4 obtained high loadings from the following four variables (items 21, 8, 5, and 1), e.g., "I think things over until I accept them completely." Factor 4 obviously reflects a dimension representing deliberative thinking. Therefore, factor 4 can be called Deliberative Style. Factor 5 obtained high loadings from the following four variables (items 30, 18, 2, and 26), e.g., "I collect necessary information from teachers, friends, and books". It seems to generally represent a dimension reflecting preparation for doing something. Thus, factor 5 can be called Preparatory Style.

Motivation

The 22 items in Kubo (1997) were subjected to factor analysis. Item 10 was eliminated because it loaded highly on two factors (See Appendix 2). The remaining 21 items were again factor analyzed. Factor 1 receives appreciable loadings from five variables, most of which were concerned with self-esteem, e.g., *I can feel superior to others if I have high English proficiency*. Factor 1 was therefore called Self-esteem. Factor 2 receives loadings from four variables. The three variables relate to learning English for practical reasons, e.g., *Learning English is useful in my current life*. The other is related to intellectual satisfaction. Thus, Factor

2 is named Practical Reasons and Intellectual Satisfaction. Factor 3 obtains appreciable loadings from four variables, three of which concern intrinsic motivation e.g., *I study English because I want to know new things*, although item 22 is related to the utility of English certification in the society. Factor 3 is therefore labeled Intrinsic Motivation and English Certification. The three variables loading on Factor 4 are related to relationships with others, e.g., *I can make friends in English schools*. Thus, Factor 4 is called Relationship. The three items loading on Factor 5 are related to (a) thinking about things from various angles e.g., *If I do not study English, I cannot think about things from various perspectives* and (b) feeling fulfilled by studying English e.g., *I cannot feel fulfilled if I do not study English.* Thus, Factor 5 is labeled Thinking and Fulfillment. The items that load on Factor 6 indicate passive reasons to study English, e.g., *If I do not study English, I will have trouble finding a job in the future*. Factor 6 is therefore called Passive Reasons. The scores for the items loading highest on each factor were added up to create the following six subscales, including Self-esteem, Practical Reasons and Intellectual Satisfaction, Intrinsic Motivation and English Certification, Relationship, Thinking and Fulfillment, and Passive Reasons. The Cronbach alpha index of internal consistency was acceptable for all subscales, varying between .66 and .86.

Regression

The final analysis attempted to determine how well the five types of learning style and six types of motivation would predict students' strength of anxiety. A multiple regression analysis, a statistical method in which scores on one or more

variables (independent variables) are used to predict scores on another variable (dependent variable), was employed.

First, strength of anxiety was regressed on the five subscales of learning style using a simultaneous regression procedure. The R square values, an indicator of how well the model fits the data, were .29. A multiple regression analysis revealed that, of five learning style variables, only Practical Style appeared to be related to foreign language anxiety (beta = − .56, $p < .05$). Practical Style was a negative predictor of the strength of foreign language anxiety.

Next, strength of anxiety was regressed on the six subscales of motivation using a simultaneous regression procedure. The R square values were .32. The Practical reasons and Intellectual Satisfaction subscale had a significant effect on anxiety (beta = − .59, $p < .05$). Practical Reasons and Intellectual Satisfaction was a negative predictor of the strength of foreign language anxiety.

Discussion

Research question 1: Which variables of learning style best predict students' foreign language anxiety?

The regression model suggests that only one learning style variable, Practical Style, was found to be associated with foreign language anxiety. Students who have practical style tend to have lower levels of foreign language anxiety. That is, the findings indicate that practical style is an important factor to reduce foreign language anxiety. Thus, in order to reduce students' anxiety in English lessons, it is important for instructors to make students imagine the scene where they use it practically.

Research question 2: Which variables of motivation best predict students' foreign language anxiety?

The regression model suggests that only one motivational variable, Practical Reasons and Intellectual Satisfaction, was found to be associated with foreign language anxiety, providing weak support to the hypothesis of a relationship between motivation and foreign language anxiety. Students who have practical reasons and intellectual satisfaction tend to have lower levels of foreign language anxiety. That is, the findings indicate that practical reasons and intellectual satisfaction is an important factor to reduce foreign language anxiety. Thus, for students who feel very anxious in English lessons, it is effective for instructors to provide practical reasons for learning English. For example, instructors should show how the English that students are learning can be useful for their life. Further, the results showed that students who have intellectual satisfaction tend to have lower foreign language anxiety. Therefore, in English language classes, instructors should use teaching materials that students can find intellectually satisfying.

Conclusions

The main purpose of this study was to investigate the relationship between (a) learning style and foreign language anxiety and (b) motivation for learning EFL and foreign language anxiety. This study indicates that students who have practical learning style, practical reasons, and intellectual satisfaction tend to have lower levels of foreign language anxiety.

Finally, several limitations of this study need to be recognized in interpreting the results. First, the results may be specific to one group and may not be generalized to EFL learning as a whole. Inferences drawn from the results of this study are limited by the nature of the particular sample used, which consisted solely of English majors in Japan. Replication of the study with different groups of language learners and in different learning contexts is necessary to understand how well the results may be generalized to non-English majors in Japan or EFL students outside Japan. Second, the results of the current study suggest that foreign language anxiety is only, to some extent, related to learning style and motivation. Also, the low level of variance explained suggests that other variables play more important roles. In the future, it is necessary to explore other potential factors that can influence foreign language anxiety.

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Appendix 1

Summary of Factor Loadings for Varimax Orthogonal Six-Factor Solution for the Learning Style Questionnaire (N =91)

Item	Factor loading				
	1	2	3	4	5
9. I can imagine the situation where I use it practically.	**.79**	.27	.01	-.20	-.08
10. When I learn new things, I imagine the scene where I use it practically.	**.60**	.36	-.07	-.40	-.12
12. I learn something using it practically.	**.59**	.13	-.08	-.23	.17
19. I imagine the situation where I communicate in English.	**.58**	.33	.00	-.35	.10
20. I can deal with unfamiliar ways flexibly.	**.53**	.19	-.01	.00	.12
14. I try to find rules from examples.	.15	**.63**	-.01	.00	.02
22. I organize what I learn systematically	.38	**.54**	.17	.18	-.29
23. When I understand rules, I apply them to other cases.	.36	**.54**	-.09	.13	.00
4. Logical correctness is important for me.	.19	**.53**	.12	.36	-.13
15. Before doing a task, I imagine the results.	.15	**.47**	.25	-.01	.07
25. I try to collect a lot of examples.	.20	**.44**	.14	-.04	.24
7. I decide procedures before starting tasks.	.06	.18	**.82**	.04	.11
6. I decide to do something on the spot.	.10	.02	**-.69**	-.11	-.04
21. I ask for a right answer.	-.25	-.06	-.18	**.62**	-.10
8. I cannot continue studying when I find ambiguous points.	-.20	.01	.13	**.55**	.07
5. I think things over until I accept them completely.	.23	.43	.28	**.50**	-.11
1. I trust my hunches and feelings.	.19	.01	-.38	**-.42**	.13

30. When I use English, I try to follow grammar rules.	-.05	.15	.14	.20	**-.62**
18. I collect necessary information from teachers, friends, and books.	.18	.32	.18	.31	**.44**
2. I consider the best way to accomplish a task.	.29	.22	.40	.22	**.42**
26. I took a lot of time when I make a presentation.	-.06	.13	.23	.04	**.30**

Note. Boldface indicates highest factor loadings.

Appendix 2

Summary of Factor Loadings for Varimax Orthogonal Six-Factor Solution for the Motivational Questionnaire (N =91)

Item	Factor loading					
	1	2	3	4	5	6
13. I can feel superior to others if I have high English proficiency.	**.80**	.16	.12	.01	.12	-.05
12. If I have lower English proficiency than others, I am embarrassed.	**.77**	.21	.02	.14	.00	.24
20. If I do not have English qualification, I cannot find a good job.	**.75**	.17	-.11	.04	.12	.06
16. It is nothing special that we have high English proficiency.	**.74**	.06	.21	.25	.22	.13
4. Everybody study English, so I study, too.	**.71**	.12	-.25	-.13	.19	.23
11. I can live a rich lifestyle if I have some qualifications in English.	.08	**.83**	.01	.11	.07	.07
14. English is useful in real life.	.22	**.79**	.14	.03	.08	.20
21. I want to feel happy to learn new knowledge and skills.	.35	**.71**	-.11	-.05	.11	.13
18. If we study English when we need it, it's too late.	.11	**.56**	-.01	.34	.07	.49
6. I study English because I want to know new things.	-.19	-.07	**.75**	.20	.10	.23
5. I can get knowledge and skills about language if I study English.	.05	.04	**.73**	-.01	.02	.05
22. If I have English qualification, I will gain a profit in society.	.31	.31	**.65**	.09	.11	-.09
2. Studying English may be not useful in my current life, but it is fun.	-.12	-.13	**.55**	.30	.18	.04
1. I can make friends in English schools, so I study English.	.11	-.03	.11	**.84**	.08	.24
3. I can make friends with foreigners if I can speak English.	.04	.15	.18	**.83**	.13	-.12
15. If I have high English proficiency, others think I am cool.	.10	.31	.21	.47	.10	.34
7. If I don't study English, I can't think things from various perspectives.	.09	.11	.01	.09	**.85**	.16
9. I cannot feel fulfilled if I do not study English.	.33	.13	.11	.00	**.71**	-.02
8. I study English in order to think things from various perspectives.	.14	.03	.29	.30	**.67**	.09
19. Other persons study English, so I study.	.14	.14	.13	-.01	.30	**.77**
17. If I do not study English, I will have trouble finding a job in the future.	.22	.22	.08	.15	-.05	**.76**

Note. Boldface indicates highest factor loadings.