

## FL anxiety studies of Japanese EFL learners: A critical review

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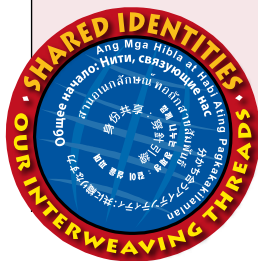
### Reference data:

Kawashima, T. (2009). FL anxiety studies of Japanese EFL learners: A critical review. In A. M. Stoke (Ed.), *JALT2008 Conference Proceedings*. Tokyo: JALT.

Foreign Language (FL) anxiety can be a critical factor in determining the success of an individual's language learning endeavors. Broad familiarity with research that has been conducted with Japanese learners can assist teachers seeking to minimize the negative impact of anxiety on their learners. This review of studies critically discusses 26 FL anxiety studies involving Japanese learners in terms of participants, instruments, and results. The review reveals that most of this research has been conducted at universities and little is known about the impact of affective factors on language learning at primary and secondary school levels. It also highlights some of the major problems with the applicability of the commonly used Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz & Cope, 1986) to the Japanese EFL context. Implications for future research are discussed, including the urgent need for studies focusing on strategies targeting FL anxiety in the Japanese context.

外国語不安は、学習者一人一人の言語学習の成否を決定しうる極めて重要な要素である。このため教師が日本人学習者を対象に行われた研究について理解を深めることは、外国語不安の学習者への負の影響を最小限にとどめる上で役立つと考えられる。本研究は日本人英語学習者に関する26の先行研究を、被験者、装置、結果の点から分析した。その結果、大部分の研究が大学で実施され、情意的要因が初等・中等学校での言語学習にどのような影響を及ぼすかを調査した研究はほとんどないことが分かった。また、広く利用されている外国語教室不安尺度(Horwitz, Horwitz & Cope, 1986)を、そのまま日本で用いることの問題点も明らかになった。日本の学習環境における学習者の外国語不安軽減のための方策について、今後さらなる研究が求められる。

**R**esearch in the area of foreign language (FL) anxiety has been greatly influenced by the work of Horwitz, Horwitz, and Cope (1986). They defined FL anxiety as consisting of three subcomponents: communication apprehension, test anxiety, and fear of negative evaluation. They developed the Foreign Language Classroom Anxiety Scale (FLCAS), a 33-item scale that has proved to be a reliable and valid measure of FL anxiety in studies conducted mostly in North America. Research using this



scale has contributed to the consistent finding that anxiety has a negative impact on second language learning.

However, the validity and reliability of the FLCAS when administered in Japan is doubtful. High reliability and validity of the scale in studies conducted abroad does not necessarily guarantee high reliability and validity in Japan. For instance, the FLCAS includes following items:

- I feel very self-conscious about speaking English in front of other students.
- I start to panic when I have to speak without preparation in English class.
- I get nervous when I don't understand what the teacher is saying in the English class.

The problem with these test items in the Japanese high school context is the presupposition that everybody speaks English in English class. However, in English classes at high schools in Japan, students tend to be rarely called on to speak (Dwyer & Heller-Murphy, 1996) and a majority of teachers speak Japanese most of the time (Sakui, 2004). NHK (2005) reported that at only 8 % of all senior high schools in Japan, English classes were conducted mostly in English and that at nearly four fifths of the schools, English was hardly used. The kind of language classroom in Japan is therefore quite different from that which the FLCAS presumes.

Doubts about the applicability of the FLCAS to Japanese high school English classrooms motivated the author to conduct this review, which examines 26 studies on FL anxiety of Japanese learners in terms of participants, instruments, results, and adaptations to the FLCAS.

## Reviewed studies

With the help of the search engine, ERIC (Educational Resources Information Center) and National Diet Library Online Public Access Catalog, studies on FL anxiety documented in both international and domestic journals were examined. After excluding a few replication studies by the same researcher and review articles on FL anxiety, 26 studies reported between 1992 and 2006 were chosen to be reviewed. These were all Japan-based studies except for Hashimoto (2002) and Oya, Manalo, and Greenwood (2004). A summary of the 26 studies is shown in Appendix 1.

## Findings

### *Milieu of research*

An examination of the participants involved in these studies showed that very little FL anxiety research was conducted outside of universities. Of the 26 studies, all but four examined the FL anxiety of university students (see Appendix 2). There was only one study each involving adults at overseas language schools, senior high school students, and elementary school students. Oya, Manalo, and Greenwood (2004) examined 73 Japanese adults aged between 18 and 67 years who were studying English at language schools in New Zealand. Yashima, Zenuk-Nishide, and Shimizu (2004) looked at 226 Japanese senior high school students, and Matsumiya (2005) investigated 544 Japanese elementary school students. A study by Keaten, Kelly, and Pribyl (1997) is unique in that it was conducted across school types: they looked into FL anxiety among kindergarteners, elementary, junior high, and senior high school students in Japan.

Four studies investigated FL anxiety of Japanese students studying abroad or at a foreign school in Japan. These subjects were attending a university in Hawaii (Hashimoto, 2002), studying English at language schools in New Zealand (Oya, Manalo & Greenwood, 2004), returning from a year-long study program in the United States (Yashima, Zenuk-Nishide & Shimizu, 2004), or attending an intensive preparatory English language program at an American university in Tokyo (Brown, Robson & Rosenkjar, 1996).

### *Instrument*

A review of the 26 studies revealed that the FLCAS was by far the most often used instrument, with the Foreign Language Reading Anxiety Scale (FLRAS) being the second most popular (see Appendix 3). The FLRAS is a 20-item instrument specifically developed by Saito, Horwitz, and Garza (1999) to measure anxiety related to FL reading. Appendix 3 also shows that many other instruments which were originally developed abroad were used in the reviewed, Japan-based studies.

### *Findings from past research*

Across all studies, the possible scores on the FLCAS, which consists of 33 items with a 5-point Likert scale, range from 33 to 165. Of the 10 studies which used the FLCAS, only two provide comparable data in terms of the number of test items and the scale. The mean scores of 107.1 in the Brown, Robson, and Rosenkjar (1996) study and 101.0 in the Matsuda and Gobel (2001) study suggest that Japanese university students are relatively anxious. Regarding the

level of FL anxiety and grade level, Keaten, Kelly, and Pribyl (1997) reported that communication apprehension levels increased fairly steadily from kindergarten through the senior year in high school. Matsuda and Gobel (2001) found that the type of reading anxiety changed as university students progressed through their degree programs.

Findings concerning the relationship between proficiency and FL anxiety have been inconsistent. Falout (2004) reported that the correlation between the FLCAS and proficiency measured by a 100-point test, specific to class contents, was not significant for the pre- or post-test, but found that significance emerged between FLCAS scores and attendance ( $r=.234, p<.05$ ). On the other hand, Asano (2003) found statistically significant negative correlations between low anxiety scores on the FLCAS and English proficiency. These results showed that the more anxious university students were, the less proficient they were. Likewise, the findings by Oya, Manalo, and Greenwood (2004) implied that the more anxious the students were, the less accurate their clause constructions were in a story-retelling task.

McLaughlin and Yamashiro (2000) further examined the relation between FL anxiety and proficiency. The results showed that the vocabulary section of the Comprehensive English Language Test (CELT) had significant correlations with all three FLCAS subscales (i.e., with speaking anxiety ( $r= -.26$ ), classroom anxiety ( $r= -.26$ ), with non-anxiety ( $r= .30$ )). On the other hand, the structure section of the CELT was correlated with the speaking and non-anxiety measures, and the listening section was correlated only with the classroom anxiety subscale.

Most of the past studies have explored the relation of FL anxiety with (1) motivation, perceived competence, or willingness to communicate; or with (2) foreign language proficiency or performance. Few studies, however, have investigated the effects of intervention on participants' FL anxiety. Asano (2003) and Shillaw and Iwaki (2004) are two of the few intervention studies. Asano (2003) examined the effects of audio-visual approaches on foreign language learning anxiety over the duration of two semesters. The treatment included the use of audio-visual equipment to present materials. The statistical comparisons of the FLCAS scores on the pre- and post-test indicated that the instructional method had no direct or positive effect on the reduction of learner's anxiety. Shillaw and Iwaki examined how intensive listening in a language laboratory class influenced the level of anxiety of Japanese university students. They investigated FL anxiety at three stages of learning: input, processing, and output stages. The results showed almost no change in the levels of anxiety over the 3 month period. In addition, no major difference was found at any of the three stages.

### *Adaptations to the FLCAS*

Next, adaptations to the FLCAS in studies of FL anxiety in Japan were examined. Of the 10 studies in which the FLCAS was used, 6 studies reporting a reliability index of the scale were focused on so that they could be compared with each other. The scale (i.e., five-point, six-point, and seven-point), number of items, and reliability of the FLCAS in these studies are indicated in Appendix 4.

Some researchers used six- or seven-point scales instead of the original five-point scale. Falout (2004) reported that he adopted a 6-point Likert scale to make it impossible for respondents to give neutral answers. Matsumura (2000b) used a 7-point scale in her study, but did not provide a specific rationale for this. Moreover, even among studies which employed a five-point Likert scale, there was variation in the order of positive/negative agreement. In most cases, as in the Horwitz, Horwitz, and Cope (1986) study, 1 was defined as "strongly agree" and 5 was "strongly disagree", but Asano (2003) and McLaughlin and Yamashiro (2000) selected the opposite order.

The number of items also varied from one study to the next. However, the reasons for deleting certain items were not always clearly reported. McLaughlin and Yamashiro (2000) discarded two items because they substantially reduced reliability of the scale and they seemed different from other items in the construct. Asano (2003) selected 23 items from the original 33 without giving a rationale. Matsumura (2000b) added 17 items to the FLCAS based on the results of an open-ended questionnaire and informal interviews she had conducted previously. Cronbach's alpha is a commonly used internal consistency reliability index. As is shown in Appendix 4, except for Matsumura's study, which obtained an alpha coefficient of .94, the reliability of the scales in all the other studies was found to be lower than the .93 achieved in the original study in the U.S.A. As Matsumura altered the scale and added items, it cannot be detected where this high internal consistency comes from. Additionally, when factor analysis of a whole scale shows that several question items load heavily on identical factors,

subscales can be formed. For instance, the original FLCAS, being made up of three constructs, can be divided into three subscales. Some studies (e. g., Asano, 2003), showed reliability for the FLCAS as a whole, while others (e. g., Falout, 2004), indicated such indices for three subscales only. Due to incomplete reporting of data, reliability figures for the scales cannot be compared further.

In this regard, the lack of a clear theoretical rationale for the formation of subscales is another shortcoming of the existing research. In the cases of Falout (2004) and McLaughlin and Yamashiro (2000), the same item was classified differently based on the researchers' personal interpretations. For this reason, their internal consistency figures for the three subscales shown in Appendix 4 cannot be compared. Falout sorted 33 items into three subscales of communication apprehension, test anxiety, and fear of negative evaluation, with each subscale consisting of 11 items. Though these constructs were identical with the three components of FL anxiety in Horwitz, Horwitz, and Cope's (1986) conceptualization, to the author's knowledge, the number of items constituting each component was not shown in the original study. McLaughlin and Yamashiro simply stated "the 33 FLCAS items are clustered into the three subsections" (p.110) and provided subscales of foreign language speaking anxiety (11 items), foreign language classroom anxiety (11 items), and foreign language non-anxiety (11 items). The failure to report the result of their factor analysis prevents further comparison.

Lastly, in some studies, items referring to "speaking" were modified to match the teaching context in Japan. For example, the phrase "when they speak English" was

changed to "when they read aloud and speak English" in Asano (2003), and likewise, the original phrase "when I was speaking" became "when I am called upon" in Matsumura (2000b). The reason for these modifications was almost certainly the absence of speaking opportunities in Japanese university classrooms, especially with Japanese teachers of English.

These modifications are crucial in terms of the validity of the scale. Linguistic and sociocultural situations may vary from one country to another, and the influence of this varied language learning context cannot be underestimated. Regarding validity of the FLCAS, Matsuda and Gobel (2001) cautioned that FL anxiety is a multi-faceted construct and can vary depending on target language and learning settings. Kondo and Yang (2003) further highlighted four problems of using scales developed in Canada or the US with Japanese students. First, it has not been substantiated that Japanese students have similar concepts of FL anxiety when compared with students in Canada and the US. Secondly, these scales are concerned mainly with speaking anxiety, and a variety of other learning activities such as grammar drills or compositions are not considered. Thirdly, Japanese learners of English have difficulties that are different from Canadian learners of French or American learners of Spanish due to unique linguistic and social factors. English, French, and Spanish are linguistically similar. In addition, French is an official language in Canada, and people can easily find Spanish-speaking communities in the United States. Finally, the imbalance of factors in the FLCAS can damage the validity of the scale itself. In fact, the low reliability of the questionnaires detected

in Matsuda and Gobel (2004) and Yashima (2002) show the inappropriateness of using the FLCAS items without modification in Japan. These facts notwithstanding, only a few scales specifically modified for the Japanese context have been documented.

### Implications for future research

This critical review of FL anxiety studies in Japan revealed that the majority of the studies were conducted with university students, and very little intervention research has been carried out with a focus on ways of changing FL anxiety levels. This means that there is scope for a great deal of research which explores FL anxiety among primary and secondary school students and attempts to change FL anxiety of students with various pedagogies. With regard to analytical methods, it seems clear that a combined use of analytical methods will lead to a better understanding of FL anxiety. Some doubts were expressed about validity of the FLCAS when it is administered without modification in the Japanese context. Linguistic and sociocultural situations vary from country to country, and the influence of these diverse language learning contexts cannot be underestimated. Therefore, to best exploit the FLCAS in Japan, aspects of reliability as well as validity of this well-known scale need to be duly researched.

### Acknowledgments

I would like to thank Peter Roger, Joseph Sheehan, and two anonymous readers for their useful comments on earlier drafts of this paper.

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## Appendix 1

### Studies on FL anxiety of Japanese EFL learners

Researcher(s)	Subjects
	Research questions / purposes
	Instrument(s)
	Analytical method(s)
Asano (2003)	70 university students
	(1) Do the students in this survey experience anxiety in their English classes?
	(2) Are the degrees of FL anxiety associated with the levels of their FL proficiency and achievement?
	(3) Is the audio-visual approach effective in lowering the anxiety levels of students in FL classroom activities?
	(1) FLCAS
	(2) 2 achievement tests from a JHS level and a SHS level, and the final test of English
(1) Factor analysis	
(2) Correlation analysis	
(3) Paired t-tests	
(4) ANOVA	
(5) Multiple-comparison	

Brown, Robson & Rosenkjar (1996)	320 students at Temple University in Tokyo (18-25 yrs. old)	Hashimoto (2002)	56 university students studying in Hawaii
	<ol style="list-style-type: none"> <li>(1) Are self-report scales on anxiety reliable and valid when applied to Japanese university students?</li> <li>(2) What do anxiety scales tell us about Japanese university students?</li> </ol>		<ol style="list-style-type: none"> <li>(1) How are the WTC, motivation, and perceived competence of Japanese ESL students related to frequency of L2 use in classrooms?</li> <li>(2) To what degree are perceived competence and communication apprehension causes of WTC?</li> <li>(3) To what degree is communication apprehension a cause of perceived competence?</li> <li>(4) To what degree is WTC related to motivation?</li> </ol>
	<ol style="list-style-type: none"> <li>(1) Y/G Personality Inventory</li> <li>(2) Attitude/Motivation Test Battery</li> <li>(3) FLCAS</li> <li>(4) Strategy Inventory for Language Learning</li> <li>(5) Cloze test</li> <li>(6) Michigan Placement Test</li> </ol>		<ol style="list-style-type: none"> <li>(1) Adapted version of the Attitude/Motivation Test Battery</li> <li>(2) WTC scales from McCroskey's (1992)</li> <li>(3) 12 items from MacIntyre and Charos (1996)</li> <li>(4) 12 items from Yashima (2002)</li> </ol>
	<ol style="list-style-type: none"> <li>(1) Cronbach's alpha</li> <li>(2) Factor analysis</li> <li>(3) MANOVA</li> </ol>		<ol style="list-style-type: none"> <li>(1) Principal component analysis</li> <li>(2) Structural equation modeling</li> </ol>
Falout (2004)	72 university students	Hojo (1992)	50 university students
	<ol style="list-style-type: none"> <li>(1) Are three factors on the FLCAS reliable when applied to learners in the supplementary English classes?</li> <li>(2) Is FL anxiety related to proficiency?</li> <li>(3) Does FL anxiety cause an affective filter?</li> <li>(4) Does FL anxiety affect attendance?</li> </ol>		<ol style="list-style-type: none"> <li>(1) What kinds of classroom activities make students feel anxious?</li> <li>(2) How are the teachers' correction of students' errors related to student anxiety?</li> </ol> <p>What kinds of teachers' personalities and behaviors will lower the level of student anxiety?</p>
	<ol style="list-style-type: none"> <li>(1) FLCAS</li> <li>(2) Original English test</li> </ol>		<ol style="list-style-type: none"> <li>(1) Questionnaire with items adopted from Young (1990)</li> </ol>
	<ol style="list-style-type: none"> <li>(1) Cronbach's alpha</li> <li>(2) Correlation analysis</li> </ol>		<ol style="list-style-type: none"> <li>(1) ANOVA</li> </ol>

PAC7 at JALT2008: Shared Identities	Hojo (1996)	199 university students	Kondo (1997)	194 university students
		(1) What kinds of classroom activities make students feel anxious?		(1) To measure the student level of test anxiety and to collect a broad sample of tactics that they use to cope with test anxiety
		(2) What is the cause of anxiety that students feel when they speak in front of others in class?		(2) To classify the tactics into strategies
		(3) How do students evaluate their own English proficiency?		(3) To assess the strategies for possible differences by student level of test anxiety
	(1) Questionnaire with items adopted from Ely (1986) and Young (1990)	(1) Test Anxiety Scale (Sarason, 1978)		
	(1) ANOVA	(2) Open-ended questionnaire to ask about specific tactics students have used to cope with anxiety		
	(2) Correlation analysis	(1) Cluster analysis		
	In'nami (2006)	79 university students	Kondo & Yang (2003)	148 (Preliminary study) / 213 (Main study) university students
		(1) To investigate to what extent test anxiety affects listening test performance		(1) Creation of test items for an English classroom anxiety scale
		(1) Two monologue, listening texts adopted from Listening to TOEFL		(2) Validation of the anxiety scale
(2) Test Anxiety Scale (Sarazon, 1975)		N/A		
(3) Test Influence Inventory (Fujii, 1993)	(1) Factor analysis			
(1) Factor analysis	(2) Cronbach's alpha			
(2) Structural equation modeling				
Keaten, Kelly & Pribyl (1997)	45 kindergarten, 620 elementary school, 389 JHS, and 244 SHS students			
	(1) Are there differences in levels of communication apprehension of Japanese students across grade levels?			
	(2) How different are Japanese students in grades K-12 from American students of the same age in the level of communication apprehension?			
	(1) Personal Report of Communication Fear (McCroskey et al., 1981)			
(1) MANOVA				
(2) ANOVA				

Kondo & Yang (2004)	209 university students	Matsuda & Gobel (2001)	252 university students
	(1) To measure student level of language anxiety and to collect a broad sample of tactics that they use to cope with language anxiety		(1) Is there a relationship between general English classroom anxiety and English reading anxiety?
	(2) To classify the tactics into strategies		(2) Are there differences in types of anxiety based on the school year?
	(3) To assess the strategies for possible differences by student levels of language anxiety		(1) FLCAS (2) FLRAS
Kondo & Yang (2006)	(1) Original English language classroom anxiety scales	Matsuda & Gobel (2004)	(1) Cronbach's alpha
	(2) Open-ended questionnaire to ask about specific tactics they have used to cope with anxiety		(2) Principal component analysis
	(1) Cluster analysis		(3) MANOVA
	(2) Correlation analysis		(4) Correlation analysis
	202 university students		252 university students
(1) How is language anxiety related to the perceived effectiveness of preparation, relaxation, positive thinking, peer seeking, and resignation?	(1) What effect does overseas experience have on the theoretical constructs of FL classroom anxiety and FL reading anxiety?		
(2) Original English language classroom anxiety scales	(2) What effect does gender have on the theoretical constructs of FL classroom anxiety and FL reading anxiety?		
(1) Open-ended questionnaire to ask specific tactics they have used to cope with anxiety	(3) What variables and anxiety factors can be accurate predictors of overall classroom performance?		
(2) Tukey's HSD test	(1) FLCAS (2) FLRAS		
(1) Correlation analysis	(1) Cronbach's alpha		
	(2) Principal component analysis		
	(3) MANOVA		

PAC7 at JALT2008: Shared Identities	Matsumiya (2005)	544 elementary school students	Matsumura (2000b)	40 (Preliminary study) / 117 (Main study) university students
		(1) To investigate student anxiety about classroom activities, the willingness to communicate with foreigners, and the willingness to study English after entering senior high schools		(1) To examine whether different intensity of anxiety on the FLCAS could have significant effects on listening test performance
		(2) FLCAS		(1) FLRAS (2) TOEIC (3) FLCAS (4) Test Anxiety Scale (Sarason, 1975)
		(1) Original questionnaire to ask WTC and the willingness to study English		(1) Principal component analysis (2) ANOVA (3) MANOVA
Matsumura (2000a)	102 university students	McLaughlin & Yamashiro (2000)	83 university students	
	(1) Is there any significant difference between a high-anxiety group of students, an average-anxiety group of students, and a low-anxiety group of students in their metacognitive awareness of various components of FL reading strategies?		(1) To what extent is the FLCAS reliable when completed by Heisei International University students? (2) What relationships can be identified between the Comprehensive English Language Test (CELT) and the FLCAS? (3) What information can be derived from the frequency and descriptive statistics for each item on the FLCAS?	
	(1) FLRAS (2) Metacognitive questionnaire on reading strategies from Carrell (1989)		(1) Comprehensive English Language Test (CELT) (Harris & Palmer, 1986) (2) FLCAS	
	(1) ANOVA (2) Box's M test (3) MANOVA		(1) Kuder-Richardson 21 (2) Cronbach's alpha (3) Correlation analysis	

McLaughlin & Yamashiro (2001)	276 junior college / university students	Miyanaga (2005)	447 university students
	(1) To what extent will anxiety influence the English proficiency measure?		(1) How reliable and valid is the adapted version of the FLRAS for Japanese university students?
	(2) To what extent will the Attitude/Motivation Index variables on the AMTB and the survey locally developed by researchers based in Japan have similar factor loadings?		(1) Practice TOEFL (2) FLRAS
	(3) To what extent will the anxiety measures from the AMTB and the locally-developed survey have similar factor loadings?		(1) Kuder-Richardson 21 (2) Cronbach's alpha (3) Principal component analysis (4) ANOVA
	(1) Attitude/Motivation Test Battery (2) Questionnaire from Ogane and Sakamoto (1999) (3) FLCAS		
(1) Cronbach's alpha (2) Factor analysis		Oishi (1993)	100 university students
Miyanaga (2002)	245 university students		(1) What are the psychological factors which influence the language learning of Japanese students?
	(1) What is the relationship between learners' anxiety level and reading scores?		(1) FLCAS
	(2) What is the relationship between learners' reading scores and their use of reading strategies?	(1) Descriptive analysis	
	(3) What is the relationship between learners' anxiety level and their use of reading strategies?	73 students studying at language schools in New Zealand (18-67 yrs old)	
	(1) Practice TOEFL (2) FLRAS (3) Metacognitive questionnaire on reading strategies from Carrell (1989)		Oya, Manalo & Greenwood (2004)
(1) Multiple regression analysis	(1) Maudsley Personality Inventory (2) Spielberg State and Trait Anxiety Inventory (3) Story-retelling task		
			(1) Correlation analysis

Shillaw & Iwaki (2004)	78 university students
	(1) How is anxiety related to students in the LL class? (2) Will language anxiety be reduced in three months?
	(1) Items for the Input, Processing, and Output Anxiety Scales (MacIntyre & Gardner, 1994)
	(1) Correlation analysis (2) ANOVA
Yashima (2002)	389 university students
	(1) To examine the relationships among L2 learning and L2 communication variables using the WTC model and the socio-educational model as a framework
	(1) Questionnaires adopted from MacIntyre & Charos (1996), McCroskey (1992), Gardner & Lambert (1972) (2) TOEFL
	(1) Cronbach's alpha (2) Structural equation modeling

Yashima, Zenuk-Nishide & Shimizu (2004)	166 (Study 1) / 60 (Study 2) SHS students
	(1) To examine whether Japanese learners' WTC results in L2 communicative behavior in intercultural contact situations both inside and outside the classroom (2) To examine variables that affect WTC in the L2 and communicative behavior
	(1) Questionnaires adopted from MacIntyre & Charos (1996), McCroskey (1992), Gardner & Lambert (1972) (2) TOEFL
	(1) Cronbach's alpha (2) Structural equation modeling

Note. Analytical methods can be divided into four types:

- (a) correlation analysis reports Pearson's product moment correlation coefficient or Spearman's rank correlation coefficient;
- (b) computation of reliability and internal consistency of questionnaire items, which is investigated by Cronbach's alpha or Kuder-Richardson 21;
- (c) analysis of variance (ANOVA) or multivariate analysis of variance (MANOVA) which determines if mean differences exist for two or more samples or treatments;
- (d) factor analysis or principal component analysis which extracts common factors or components from the data collected by questionnaires.

## Appendix 2

### Milieu of research

School type	Number of studies
Language school students	1
University students	22
Senior high school students	1
Elementary school students	1
Kindergarten to SHS students	1

## Appendix 3

### Instrument

Name of instrument (source)	Number of studies
FLCAS (Horwitz et al., 1986)	10
FLRAS (Saito et al., 1999)	5
Willingness To Communicate Scale (McCroskey, 1972)	3
Attitude / Motivation Test Battery (Gardner, 1985)	3
Test Anxiety Scale (Sarason, 1975)	2
Metacognitive Questionnaire on Reading Strategies (Carrell, 1989)	2
Personal Report of Communication Fear (McCroskey et al., 1981)	1
Maudsley Personal Inventory (Spielberger, 1983)	1
Input, Processing, and Output Anxiety Scale (MacIntyre & Gardner, 1994)	1
Strategy Inventory for Language Learning (Oxford, 1990)	1

## Appendix 4

### Adaptations to the FLCAS

Study	Scale	Item	Cronbach's alpha
Horwitz, Horwitz & Cope (1986)	5-point scale	33 items	.93
Asano (2003)	5-point scale	23 items	.91
Falout (2004)	6-point scale	33 items	.79/.87/.83
Matsuda & Gobel (2001)	5-point scale	33 items	.78
Matsumura (2000b)	7-point scale	50 items	.94
McLaughlin & Yamashiro (2000, 2001)	5-point scale	31 items	.89/.89/.69 (2000) .89/.87/.70 (2001)