

# The Relationship Between Language Anxiety, Interpretation of Anxiety, Intrinsic Motivation and the Use of Learning Strategies

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Researches in language anxiety have focused on the level of language anxiety so far. This study instead, hypothesizes that the interpretation of anxiety and the recognition of failure have an impact on learning and investigates how language anxiety and intrinsic motivation affect the use of learning strategies through the recognition of failure. The results show that learners with high intrinsic motivation are more likely to recognize the benefits that can come from failure, as well as make use of a great variety of learning strategies. In contrast, learners with high language anxiety are more likely to attribute failure to anxiety and less able to make use of learning strategies to overcome this failure.

*Keywords:* language anxiety, Japanese language education, interpretation of failure, use of learning strategies, intrinsic motivation

## Research Background

In previous researches undertaken in language learning, one of the factors affecting the effectiveness of learning is that of the language anxiety arising from the anxiety of learning a foreign language, as well as the tension it generates. Many studies, including MacIntyre and Gardner (1989), Aida (1994), Saito and Samimy (1996), showed a negative correlation between language anxiety and learner performance. The findings of Radnofsky and Spielmann (2001) suggested quite the opposite: In a qualitative analysis of a seven-week summer intensive beginners' French course conducted at Middlebury College, the students used anxiety in a positive manner, and an appropriate amount of anxiety was found to actually promote learning. Researches in language anxiety have, therefore, focused on whether anxiety acts as an obstacle, or whether it acts in a positive manner.

In the field of sports psychology, the focus of researches has been on how anxiety is perceived. According to Hagger and Chatzisarantis (2005), an athlete's performance is negatively impacted not by anxiety itself, but rather by how they interpret this anxiety. Athletes who report a higher level of facilitative anxiety perform better, and an elite group of athletes reported interpreting anxiety in a facilitative manner.

Motoda (2005) and others suggested an alternative: an affective approach in guidance methods to deal with language anxiety. However, its effectiveness has been rarely observed empirically. Consequently, Nishitani and Matsuda (2006) carried out an experiment investigating this effect with e-learning materials,

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which elicited feedback on language anxiety on Chinese and Vietnamese students learning the Japanese language. The results suggested that it is difficult to produce a dramatic improvement in learners' performances using only an affective approach. It is believed that the reason why a clear effect was not observed, as pointed out in the field of sports psychology, was that attempts were made to alleviate anxiety, instead of placing emphasis on changing how that anxiety is interpreted. However, the concept of anxiety itself carries a negative connotation. Trying to perceive anxiety positively does not always yield the desired result. Consequently, we believe that it is important to perceive failure (making a mistake), which is attributed to anxiety in a positive light. It is hypothesized that instead of just utilizing an affective approach, guidance in the application of appropriate learning strategies could be added, which would lead to improved performance, which would in turn lead to the experiencing of success, promoting further understanding of failure.

This hypothesis is supported by, for example, Dörnyei (2005). According to Dörnyei, learners are able to build confidence in their learning abilities by being taught a variety of learning strategies. It is also suggested that teaching communication strategies can aid in overcoming difficulties in communication. It has also been suggested elsewhere that the use of learning strategies can lead to an improvement in English learning (The Japan Association of College English Teachers Learning Strategies Research Association, 2005).

### **Research Objectives**

The objective of this study is to create a hypothetical model for teaching learning strategies focusing on language anxiety and the interpretation of anxiety (or failure). In order to do so, language anxiety, the interpretation of anxiety or failure, learning strategies, as well as the links between them, will be investigated. Furthermore, because previous researches have made it clear that motivation is closely related to anxiety (Motoda, 2005), this study will also analyze motivation in addition to the above factors.

Students' grades were not investigated as a result of the creation of the model. In other words, whether or not students' grades improved is something to be done in an empirical experiment. The effect that language anxiety has on the performance is but an indirect one, and the authors believe that the quality and quantity of learning are both interposed within. Therefore, from the viewpoint of representing the quality of learning, it is thought that the focus should be on the use of learning strategies. In verifying such a relationship, even if a general investigation of the grades at a certain point of time shows any correlations, it may not necessarily yield a valid model. As a result, this study will investigate the characteristics which influence learners' tendencies and focus on the creation of a model promoting the use of learning strategies.

### **Overview of the Research and Results of the Factor Analysis**

#### **Overview**

This study was conducted in February 2009 over a period of three months. There were 152 participants, who were Japanese language students from three Chinese universities (first to fourth year students in the respective Japanese Language Departments). As this study looks at language anxiety, interpretation of anxiety, motivation and learning strategies with regard to Japanese language learning, the following items are incorporated into the study and form the basis of the Chinese-language survey administered to the students.

- (1) "Language anxiety" from Motoda (2005, pp. 211-214), Ely (1986) and MacIntyre and Gardner (1988), 12 items focusing on speech anxiety;
- (2) "Motivation" from Gardner (1959), 20 items used as reference;
- (3) "Interpretation of anxiety" from Hori (1994, p. 602), items relating to language anxiety used as

reference, in addition to the authors' additional items, total of 25 items;

(4) "Learning strategies" from Oxford (1990) and Nakayama (2005) used as reference, edited for ease of understanding, total of 27 items.

### Results of the Factor Analysis

From the data obtained, the factors relating to motivation, interpretation of anxiety or failure and the use of learning strategies were analyzed (see Table 1). From the analysis, it was determined that language anxiety could be viewed as one of the factors. It was because the factor loading of items apart from the one related to honorific speech (item 11) was 0.64 or above, which described a proportion of 50.1% of the total variance. An  $\alpha$  coefficient with a high value of 0.92 was also seen.

Table 1

#### *Results of the Language Anxiety Factor Analysis*

Item	Factor
When speaking Japanese in class, I am worried that I may make mistakes.	0.82
When speaking with Japanese persons, I am very worried that they might use a lot of Japanese that I do not know.	0.81
When speaking Japanese to a Japanese person, I am worried that I may make mistakes.	0.80
When in class, I am always worried that Japanese that I do not know will be used.	0.78
When listening to the teacher's explanation or reading texts, I am worried there will be parts that I do not understand at all.	0.76
I am worried that I will not be able to fully understand when learning a Japanese expression that does not have an equivalent in my native language.	0.72
When speaking with a Japanese person, I am worried that I will be unable to use Japanese to convey what I want to say.	0.71
When my mistakes are pointed out, I am worried that I will not understand how to correct myself even after the teacher's explanation.	0.69
When in class, I am always worried that I will be unable to say what I want to say using proper Japanese.	0.68
I am very worried Japanese people will speak using Japanese that is different to the Japanese that I learn in the classroom.	0.64
I am worried that my Japanese will not improve even though I put in a lot of effort studying.	0.64
I get nervous when I need to speak using honorific expressions.	0.43

Table 2

#### *Motivation Factor Analysis*

Item	Factor I	Factor II
<b>Intrinsic motivation factors</b>		
It is fun gaining new knowledge from studying.	0.80	0.23
I wish to develop myself into a more complete person by learning new things.	0.66	0.26
I want to do my best even when studying a difficult subject.	0.65	0.27
I want to keep learning even after graduating from university.	0.63	0.15
I always do my best in any field of study that I undertake.	0.58	0.53
I put in effort studying or working because I enjoy it.	0.58	0.00
I work hard studying because I want to become a learned person.	0.57	0.28
When studying, I always have a goal in mind.	0.56	0.37
When studying, I believe it is more important to do your utmost than it is to beat other people.	0.52	0.01
<b>Extrinsic motivation factors</b>		
I want to be better than everyone else when it comes to studying.	0.26	0.75
I want to study better than other people.	0.29	0.69
I am happy when I challenge and beat others in studying.	0.24	0.68
I put in effort studying or working because failure is embarrassing.	0.31	0.65
I put in effort studying or working because I do not want to lose out to others.	0.09	0.60
I am frustrated that I lost to the person I challenged in studying.	0.23	0.58
I put in effort studying or working because I want to make money in future.	-0.17	0.47
I work hard studying because I want a good job in future.	0.11	0.47

Next, a factor analysis was performed using a promax rotation on the 20 motivation factors. After excluding three factors which showed insufficient factor loading, another factor analysis was performed, also using a promax rotation (see Table 2). Additionally, the proportion of total variance described by two factors, made up of 17 items, of the previous rotation was 47.7%. The first factor, made up of nine items, including “It is fun gaining new knowledge from studying”, “I wish to develop myself into a more complete person by learning new things”, etc., consisted of motivation that came from within, and shall be named as “intrinsic motivation”. The second factor, made up of eight items, including “I want to be better than everyone else when it comes to studying”, “I put in effort studying or working because I want to make money in future”, etc., was named as “extrinsic motivation”. The  $\alpha$  coefficients of intrinsic and extrinsic motivations are both sufficiently high at 0.84 and 0.82 respectively, and had a high enough internal consistency. Furthermore, intrinsic and extrinsic motivations have a weak positive correlation, with a coefficient value of 0.32.

After that, a factor analysis was performed using a promax rotation on the 25 items related to the interpretation of anxiety or failure (see Table 3). As there is an insufficient factor loading shown, two of the factors comprised of ten items were excluded, and another factor analysis, using a promax rotation, was performed. Additionally, two items in the previous rotation, made up of 15 items, accounted for 40.5% of the total variance. The first factor, which was made up of nine items, included “Because mistakes that are made in class will not be repeated when it counts, I try to speak as much as I can in class”, “Because the teacher will correct mistakes that I make, I think that it is important to ask as many questions as possible”, etc.. Because these items show a proactive attitude in taking what normally are sources of anxiety and failure and using them positively, this factor will be named as “recognizing the benefits of failure”. Since the six items in second factor, including “Because I am anxious about Japanese, I don’t think I am progressing in my studies”, attribute the inability to perform to failure, this factor will be named as “attributing failure to anxiety”. The  $\alpha$  coefficients of “recognizing the benefits of failure” and “attributing failure to anxiety” are both relatively high at 0.86 and 0.78 respectively, and have a high internal consistency. Furthermore, not only do these two factors not have a negative correlation, but also their coefficient value of 0.25 shows that they are independent of each other.

Table 3

*Anxiety Interpretation Factor Analysis Results*

Item	Factor I	Factor II
Factor: Recognizing the benefits of failure		
Because mistakes that are made in class will not be repeated when it counts, I try to speak as much as I can in class.	0.77	0.11
When I make a mistake in class, it is retained in my memory and serves to prevent repeat occurrences.	0.74	0.13
When a mistake is pointed out, things that were unclear are now clearly understood.	0.70	0.23
Because the teacher will correct mistakes that I make, I think that it is important to ask as many questions as possible.	0.70	0.14
When I think, “was that wrong?”, and the teacher points it out as a mistake, I become more confident in myself.	0.65	0.21
My level of understanding can be confirmed through finding out how many or few mistakes I make in class.	0.60	0.12
I think that failure is natural if you think that you can speak in class without mistakes or do not need to attend class.	0.53	0.09
When I feel anxious or tense, I encourage myself to do my best.	0.52	0.21
Because the other peoples’ mistakes are helpful to me, I think that my mistakes are also helpful to other people.	0.41	0.25
Factor: Attributing failure to anxiety		
Because I am anxious about Japanese, I do not think I am progressing in my studies.	0.31	0.74
When I become anxious, I am less able to recall the studying that I did.	0.11	0.67
Anxiety frequently causes me to fail.	0.17	0.61
I find myself too anxious to speak in class when there are other people who speak Japanese better than I do.	0.06	0.60
When the teacher encourages me in class, it feels like I am comforted because I am unable to get better.	0.10	0.60
When I am unable to get good grades, I am often unconfident before tests.	0.33	0.46

Next, a factor analysis was performed using a primary factor promax rotation on the 27 items relating to learning strategies (see Tables 4 and 5). Because the factor loading during the process of factor analysis was inadequate, multiple factors with similar factor loading were excluded, leaving 13 items that were ultimately used in the analysis, which yielded four factors. Additionally, the 13 items which made up the four factors before the rotation accounted for 60.7% of the total variance. The first factor is made up of seven items, including “studying the amount that I decided to study” and “finding out how other people study or discuss with the teacher how to go about studying”, and is named as “strategizing ways to learn”. The second factor is made up of three items, which include, “inferring the meaning of a new term based on currently known terms before checking a dictionary” and “inferring the meaning of a new term from the context before checking a dictionary” and is named as “inference and interpretation”. The third factor is made up of two items, including “learning what is correct from other people’s mistakes”, and is named as “learning from failure”. Finally, the fourth factor is made up of two items, including “finding as many opportunities to use Japanese as possible”, and is named as “creating opportunities for Japanese contact”. The  $\alpha$  coefficients are: plan management (0.87), inference and interpretation (0.82), learning from failure (0.72) and creating opportunities to use Japanese (0.73); these figures indicate that the four factors are reliable. Also, because the factors have a high correlation, it is clear that the use of learning strategies is interrelated.

Table 4

*Learning Strategies Factor Analysis Results*

Item	Factor I	Factor II	Factor III	Factor IV
Factor: Plan management				
Deciding on how much I study and set aside time to do so on a weekly or daily basis.	0.90	0.38	0.32	0.46
Making plans to set and achieve goals to improve my Japanese ability.	0.80	0.35	0.40	0.40
Setting aside time to study.	0.73	0.36	0.39	0.44
Finding out how other people study, or discuss with the teacher how to go about studying.	0.71	0.44	0.34	0.55
Keeping a record of how much Japanese study improved compared to a set goal.	0.64	0.21	0.34	0.54
When test scores are bad, review study methods instead of the amount of study.	0.60	0.55	0.34	0.49
Factor: Inference and interpretation				
Inferring the meaning of a new term from the context before checking a dictionary.	0.42	0.87	0.46	0.40
Inferring the meaning of a new term based on currently known terms before checking a dictionary.	0.40	0.86	0.50	0.41
Remembering by understanding instead of just memorizing.	0.24	0.62	0.23	0.36
Factor: Learning from failure				
Learning what is correct from other people’s mistakes.	0.40	0.37	0.79	0.42
Reviewing one’s own mistakes in a test so they are not repeated.	0.30	0.37	0.72	0.22
Factor: Creating opportunities to use Japanese				
Proactively meet with friends who can speak Japanese to increase opportunities to speak Japanese.	0.50	0.40	0.28	0.83
Finding as many opportunities to use Japanese as possible.	0.44	0.52	0.54	0.70

Table 5

*Subscale Correlations Between Learning Strategies*

Factor	Inference and interpretation	Learning from failure	Creating opportunities
Plan management	0.46	0.45	0.59
Inference and interpretation		0.50	0.49
Learning from failure			0.43

### The Relationship Between Language Anxiety, Interpretation of Anxiety or Failure, Motivation and Learning Strategies

In order to create a hypothetical model for teaching learning strategies, the correlation between language anxiety, interpretation of anxiety and motivation, as well as their correlation with the use of learning strategies was investigated. In addition, rather than using the scores of the factors, the average scores of responses were used and may have different values from the correlation between factors. Using “a relatively high correlation” as a basis for interpretation, significant values less than 0.1% were extracted and shown in Table 6.

Table 6

*Correlation Between Language Anxiety, Interpretation of Anxiety, Motivation and Learning Strategies*

	1	2	3	4	5	6	7	8	9
Language anxiety	—	—	0.70	—	0.29	—	—	—	—
Recognizing the benefits of failure	—	—	—	0.49	—	0.46	0.38	0.42	0.62
Attributing failure to anxiety	0.70	—	—	—	0.32	0.31	—	0.30	—
Intrinsic motivation	—	0.49	—	—	—	0.66	0.54	0.54	0.44
Extrinsic motivation	0.29	—	0.32	0.29	—	0.27	—	—	0.24

Notes. 1 = Language anxiety; 2 = Benefits of failure; 3 = Cause attribution; 4 = Intrinsic motivation; 5 = Extrinsic motivation; 6 = Plan management; 7 = Inference and interpretation; 8 = Creating opportunities; 9 = Learning from failure.

“Language anxiety” and “attributing failure to anxiety” showed a correlation of 0.70. “Recognizing the benefits of failure” has a high correlation with almost all learning strategies and has its highest correlation with “learning from failure” at 0.62. “Attributing failure to anxiety” shows a correlation with “extrinsic motivation” (0.32), as well as “extrinsic motivation” with “language anxiety” (0.29). “Intrinsic motivation”, as well as exhibiting a correlation of 0.49 with “recognizing the benefits of failure”, has a high correlation with almost all strategies. These relationships are represented in Figure 1.

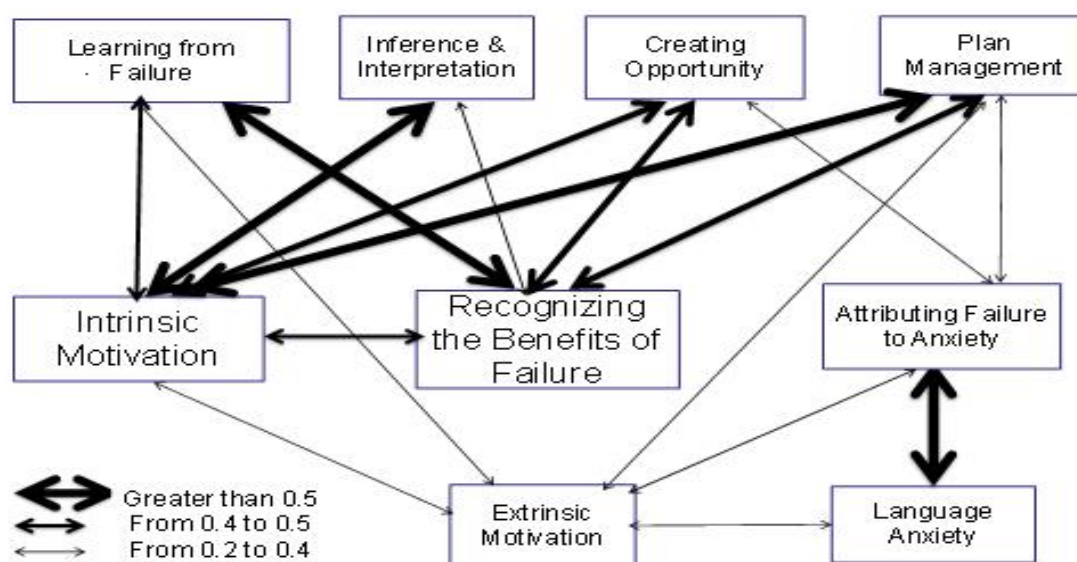


Figure 1. Relationship between language anxiety, interpretation of anxiety/failure, motivation and learning strategies.

From Figure 1, it can be seen that being able to recognize the benefits of failure and high intrinsic motivation is closely related to the use of learning strategies. Conversely, while language anxiety and attributing failure to anxiety have a high correlation, they are unrelated to the ability to recognize the benefits of

failure. In other words, among people who have a high level of language anxiety and a tendency to attribute failure to anxiety, there are both those who are able to recognize the benefits of failure, and those who are unable to do so. Then, focusing on the two factors of language anxiety and the interpretation of anxiety or failure, the participants were assigned to groups, depending on whether they exhibited high or low values for the two factors. The mean value for language anxiety was of 3.72 and attributing failure to anxiety had a mean value of 3.24. From this, it was decided to use a median value of 3.50 for these two groups, independent of the main group. However, because the factor of recognizing the benefits of failure, with a mean value of 4.54, diverged from the median value by a large margin, values greater than 4.5 were placed in a high group.

As can be seen from the results in Table 7, among the people in the high anxiety group, there were 50 persons who attributed failure to anxiety, and a similar number (42) who did not. However, in the low anxiety group, a few students attributed failure to anxiety. Furthermore, after already being divided into four groups based on whether failure was attributed to anxiety, they were further divided into groups depending on whether they were able to recognize the benefits of failure. From this, about half of each group was able to recognize the benefits of failure, and it could be seen that there were no discernible differences between each group. Because it is thought that being able to recognize the benefits of failure is strongly linked with the use of learning strategies, improvement in learning will be seen in learners able to strategize, regardless how high their language anxieties are. Conversely, learners unable to recognize the benefits of failure may find it difficult to improve regardless how low their language anxieties are. In other words, by applying the dual perspective that exists for language anxiety, which can both act as an obstacle and aid in learning, into the ability to recognize the benefits of failure, a unified explanation can be formulated.

Table 7

*Distribution of High/Low Anxiety and Anxiety Interpretation*

High anxiety group ( $\geq 3.5$ )				Low anxiety group ( $\leq 3.5$ )			
Low cause attribution ( $< 3.5$ ) 42 person		High causal attribution ( $\geq 3.5$ ) 50 person		Low cause attribution ( $< 3.5$ ) 54 person		High causal attribution ( $\geq 3.5$ ) six person	
High utility recognition	Low utility recognition	High utility recognition	Low utility recognition	High utility recognition	Low utility recognition	High utility recognition	Low utility recognition
19	23	29	21	31	23	2	4

Table 8

*Overall Mean Values of Strategy Usage in a Six-Group Distribution of Anxiety and Interpretation of Anxiety*

	High anxiety, low causal attribution		High anxiety, high causal attribution		Low anxiety, low causal attribution	
	High utility recognition	Low utility recognition	High utility recognition	Low utility recognition	High utility recognition	Low utility recognition
	19 persons	23 persons	29 persons	21 persons	31 persons	23 persons
Mean score of strategy usage	4.23	3.89	4.47	3.99	4.40	3.44
Intrinsic motivation	4.26	3.92	4.70	3.97	4.44	4.01

Therefore, from the eight group distribution in Table 7, data for the six groups with more than ten people each are shown in Table 8, along with mean values for use of learning strategies. From Table 8, it is predicted that rather than the level of language anxiety, it is the ability to recognize the benefits of failure that is important. Of special note is the group with a low level of language anxiety. In this group, while those who are able to recognize the benefits of failure are able to make use of learning strategies, those who are unable to do

so have the lowest value of strategy usage among the six groups.

### Creating a Model

According to the results so far, a model can be created for an approach for learners. This study focuses on the use of learning strategies, and through that, aims to improve the interpretation of anxiety and encourage the use of learning strategies connected in a cyclical relationship (see Figure 2).

This model is aimed at people who have a high level of language anxiety and are unable to recognize the benefits of failure. This is because it is unclear whether it is effective for people who have a low level of language anxiety. Even if people with low anxiety levels learn to recognize the benefits of failure, because anxiety levels are low, it is unclear whether they will in fact use learning strategies. The key to teaching learning strategies is promoting the strategy with the highest correlation between being able to recognize the benefits of failure and being able to learn from failure.

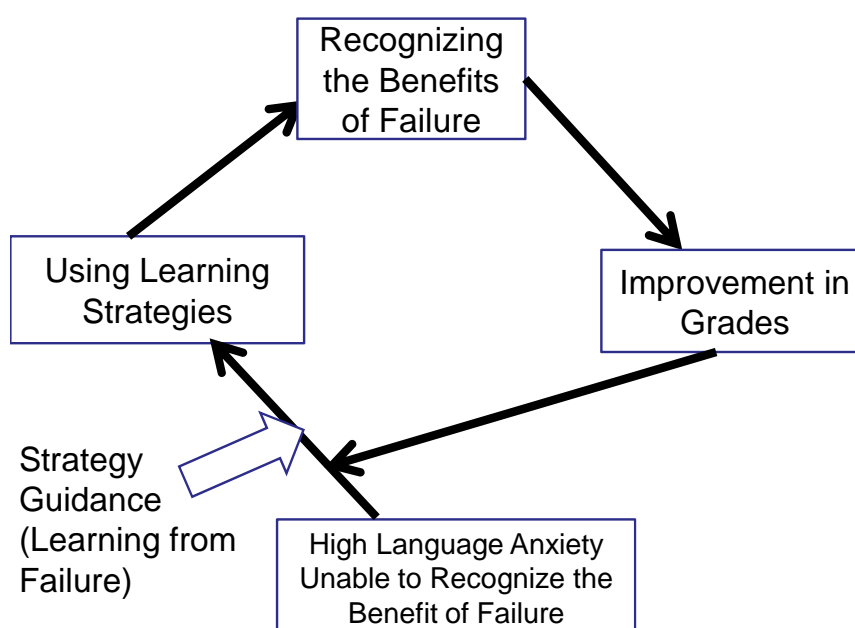


Figure 2. Model showing how strategy use leads to the improvement of language performance.

### Conclusions and Future Research

The objective of this study was to create a hypothetical model for teaching learning strategies focused on language anxiety and the interpretation of anxiety. In section of “creating a model”, when language anxiety was high, for a learner who was unable to recognize the benefits of failure, a model was presented where the learner would learn to recognize the benefits of failure and achieve better results through the learning of learning strategies, and especially the learning of the benefits of failure.

In this case, just telling them to “use these strategies” is probably insufficient to promote their use. Learners who neglect learning strategies do not do so because they are unaware of their existence; the students are aware of the strategies, but have no idea how to go about using them. It is important for them to understand that they can learn much through their mistakes, and that their fear of making a mistake may be because they wrongly assume that it gives others a bad impression. Consequently, when using the strategy of learning from our mistakes, it should be taught that it instead gives others a good impression. This will lead to a better



learning outcome, as well as being able to recognize the benefits of failure. The next step will be to verify the effectiveness of the teaching strategies shown in this study.

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