

Science and Engineering Students' Attributions for Success and Failure in the EFL Classroom

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Attribution for success and failure can be conducive to academic motivation, learning achievement, and learning expectations. This study investigated students' attributions for success and failure in learning English to find out whether or not their attributions differed according to the level of English proficiency. Two versions of questionnaires focusing on successful and unsuccessful learning experiences, including explanations for their success and failure, were distributed to 356 first-year university students majoring in engineering- and science-related fields in Bangkok, Thailand. The results show that the students considered grades, teacher influence, classroom atmosphere, and effort as the factors that facilitated success, while they considered lack of ability, inappropriate learning strategy, lack of preparation, and lack of effort as failure attributions. The level of proficiency was found to be a factor influencing the formation of different views on attributions for success and failure. The results suggest that teachers and stakeholders in ELT should deal effectively with students' attributions in order to enhance student motivation and to facilitate expectations for success.

Key words: attribution theory, attributions, causal attributions, success, failure

Attribution theory refers to people's causal attributions, explanations or interpretations of their past successes and failures which affect motivation and planning for future actions (Bruning, Schraw & Ronning, 1999; Dörnyei,

2003; Hsieh & Schallert, 2008; Weiner, 1992 cited in Dörnyei, 2001). It is seen as an attempt to systematically explore and describe explanations of individuals for their past successes and failures in particular situations (Eggen & Kauchak, 1999; Hsieh & Schallert, 2008).

In educational research specifically, Hsieh and Schallert (2008) viewed attribution theory as a tool to help understand learners' interpretations of the degree of success in their performance. It was believed that perceptions of success or failure can be conducive to academic motivation as it was claimed that "attribution lies at the very heart of motivation to learn" (Dörnyei, 2001, p. 12). In other words, students can be motivated or demotivated by the degree of success or failure they perceive in their learning.

This study was conducted based on the theoretical framework of Weiner's Attribution Theory, and aimed at investigating causal attributions of science and engineering students in a technology university in Thailand. It also aimed to highlight the level of English proficiency as an important factor affecting causal attributions for success and failure. Consequently, this study might partially explain why some students, from their perspective, are more successful than others in learning English.

Several attempts have been made to understand and explain the causal attributions in EFL classroom situations (Bandura, 1997; Dörnyei & Murphy, 2003; Weiner, 1979, 1980; Williams & Burden, 1997). In an Asian context, Gobel and Mori (2007) explored perceived reasons for successes and failures in speaking and reading classes among first-year Japanese university students. They revealed that the students who performed poorly attributed poor performance to a lack of ability, resulting in having a low expectancy for success; and this, in turn, led to passive behaviors and low motivation to participate in learning activities. They eventually acquired a sense of "learned helplessness" (Seligman, 1991), through which students are convinced by past failures that attempting to change their situation is useless, and so, have learnt not to try. On the contrary, it was observed that students were strongly motivated by pleasant outcomes. Their self-perceptions strongly influenced the ways in which they interpreted the success or failure of their efforts, and

hence, in the future, they tend to exhibit those same behaviors. If they were successful in performing an activity, they had a high tendency to be subsequently successful in similar learning activities. It can be said that students' perceptions of success or failure can undoubtedly facilitate or hinder their motivation, learning performance and expectations for future success and failure in foreign languages in general. Hussein and Samad (2005) went one step further by trying to help unsuccessful students in a Malaysian university by using a four-pronged approach that included computer software, grammar exercises, reading and vocabulary notebooks, and tests to see if that approach would affect their causal attributions for the lack of success.

Causal attributions were categorized into different sets by a number of authors; for example, Little (1985) suggests eighteen elements; Weiner (1992, 1994) proposed four: ability, effort, task difficulty, and luck; while Graham (1997), as cited in Dörnyei (2001), summarized ability, effort, task difficulty, luck, mood, family background, and help or hindrance from others as the most common attributions in an academic context.

Moreover, the same kind of causal reasoning might be offered as causes for both success and failure. For example, the studies of Williams, Burden and Al-Baharna (2001) in Bahrain revealed that practice, family and teacher support, exposure to the language, and a positive attitude were the most frequently mentioned elements for success. On the contrary, inadequate teaching methods, lack of support from family and teachers, poor comprehension, and a negative attitude were the most commonly cited reasons for failure. This view is supported by two studies conducted in the USA by McQuillan (2000) and Tse (2000). The first study reported motivation, a comfortable pace, a good teacher, ability, time and effort, level of proficiency, and atmosphere as the most cited reasons for success; whereas, lack of time and effort, poor study strategies, and atmosphere were the most common explanations of failure. The latter study attributed the teacher, the environment, the community and personal motivation as explanations for success, while lack of effort and motivation, the teacher, and the course were

most cited for failure.

All the studies reviewed so far demonstrate that attribution types, which are the key elements affecting how learners perceived their success or failure, vary in particular contexts (Williams, Burden, Poulet, & Maun, 2004). The combination of attributions was viewed differently between learners depending on their specific situations, activities, and purposes of each study as well as perceptions and beliefs of individual learners (Gobel & Mori, 2007). Those causal attributions can generally be categorized into three different dimensions—locus, stability and controllability—according to Weiner (1992, 1994).

Firstly, locus indicates whether the causes for success and failure are due to internal or external factors. For example, ability and effort are internal factors, whereas task difficulty and luck are external. The second dimension is stability which defines whether or not the cause is changeable. That is to say, effort and luck are unstable because they could be different at a particular time, while ability is considered to be a stable factor. The third dimension is controllability—the extent to which individuals accept responsibility for their successes or failures, i.e., whether they feel the elements are under their control. For example, people would likely consider effort as something that they can control, whereas luck or task difficulty is not within their control (Eggen & Kauchak, 1999).

Dimensions are considered important to learners' action outcomes. Weiner (1986), as cited in Williams et al. (2004), pointed out that if an attribution is seen as external, unchangeable, and uncontrollable, it is more likely to have a consistent effect than one which is perceived as internal, changeable, and within one's control. For instance, if students perceive that the causes of their successes, and particularly their failures, are external, unchangeable and uncontrollable, they tend to become demotivated and not try harder in subsequent similar tasks. In other words, they feel they are unable to change anything to suit their abilities. More importantly, they consider these factors as outside causes rather than emanating from their own interests or preferences. Furthermore, Williams and Burden (1997) support the idea that

learners who believe that they can control their learning are more likely to be successful than those who perceive learning as beyond their control, which may result in negative feelings towards their learning. The same conclusion can be drawn from Bruce, Hall, Villeme and Burley (1989) who said that internal attributions are considered to be more important than external ones, affecting both success and failure.

Referring to the relationship between attribution elements and dimensions, Weiner (1980, 1986, 1992), as cited in Williams and Burden (1997), pointed out that people tended to draw mainly upon four sets of attributions in achievement situations, namely ability, effort, task difficulty, and luck, and especially ability and effort which are both internal factors. The study of Weiner (1992), as cited in Dörnyei (2003), showed that learners who viewed insufficient effort as the cause for past failures were more likely to succeed and improve in the future than the ones who perceived themselves as having low ability. Even though these two factors are both internal attributions, they are different in terms of controllability. Learners who perceive that effort is under their control tend to be more successful compared to the ones who feel that effort is uncontrollable. However, surprisingly, there were complaints from learners about factors, which they believed to be external, that affected their motivation and expectancy of success (Graham 1997; Pintrich & Schunk, 1996).

Although previous studies highlighted ability and effort as the most considered attribution elements, this study pays attention to the importance of the 12 elements employed in the study of Gobel and Mori (2007) (see Table 1 for the 12 elements with classification according to three dimensions). Gobel and Mori argued that, apart from ability and effort, attributions were viewed differently based on particular situations, activities, and learning purposes as well as perceptions of individual learners. More importantly, the different combinations were likely to lead to different performance and achievement behaviors (Williams & Burden, 1997).

TABLE 1
Causal Attributions Classification

Attributions	Dimensions		
	Locus	Stability	Controllability
Ability	Internal	Stable	Uncontrollable
Effort	Internal	Unstable	Controllable
Strategy	Internal	Unstable	Controllable
Interest	Internal	Unstable	Controllable
Luck	External	Unstable	Uncontrollable
Teacher	External	Stable	Uncontrollable
Task difficulty	External	Stable	Uncontrollable
Class atmosphere	External	Stable	Uncontrollable
Grade	Internal	Stable	Controllable
Preparation	Internal	Unstable	Controllable
Likes	Internal	Stable	Controllable
Class level	External	Stable	Uncontrollable

Since causal attributions are varied and generated differently in particular contexts, this study is especially innovative because we attempted to discover the attributional beliefs of a specific group of students who were studying in the science and engineering fields. It appears that little or no study has ever been conducted to investigate science and engineering students' attributional perceptions towards language studies.

Williams et al. (2004) found that different perceptions of success and failure may be caused by the school subject or learning activity. We also believe that science and engineering students have somewhat different characteristics than language students in terms of intelligence, personality, motivation, ability, and interest; and so, these characteristics contribute to different academic strengths, weaknesses, skills, and performance in learning languages, as well as contribute to different views on attributional beliefs about language learning. Therefore, this study can more or less support our assumption that study areas make students think differently in particular ways. It can be said that the explanations for success and failure in learning English given by science-oriented students are not likely to be similar to English-major students, resulting in variations in causal attributions for success and failure.

While differences in attributions were studied in relation to a number of different aspects, such as gender (Hsieh & Schallert, 2008; Nelson & Cooper, 1997; Pintrich & Schunk, 2002; Williams & Burden, 1997); culture (Dörnyei, 2003; Gobel & Mori, 2007); self-esteem (Williams et al., 2004); and performance (Carr & Borkowski, 1989, Kristner, Osborne, & LeVerrier, 1988 as cited in Hsieh & Schallert, 2008), this study focused on students' English proficiency as a key aspect. From the study of Gobel and Mori (2007), which was also conducted in an Asian context, proficiency was found to contribute to clear differences in attributions for success and failure. Moreover, from the first researcher's experience in teaching science-oriented students, differences in learning performance and motivation based on English proficiency were noticed. Therefore, with an attempt to provide insight into science-oriented students' causal attributions for success and failure in EFL classrooms, this study tries to demonstrate if causal attributions vary according to the level of English proficiency.

Based on previous research (Gobel & Mori, 2007), we came up with two main research questions to frame this study:

1. What are the causal attributions of science and engineering students for their success and failure in English language learning?
2. What are, if any, the differences of causal attributions between high English proficiency and low proficiency students?

RESEARCH METHODOLOGY

Participants

The subjects of this study were 356 first-year university students majoring in science and engineering at King Mongkut's University of Technology Thonburi (KMUTT), an autonomous state university in Thailand. The students had a minimum of eight years of exposure to English as a foreign

language during primary and secondary education. English is one of the compulsory subjects taken in the university entrance examination. KMUTT requires students to take at least 3 compulsory integrated-skills, task-based English courses in which all four language skills are studied simultaneously. They attend classes twice a week for a period of 50 minutes for each session. The teachers use in-house materials designed by department staff based on the principle of task-based learning. During the investigation period, the participants were taking the second compulsory course in the second semester of the academic year. KMUTT uses the scores of the national entrance examination as the principal criterion to place higher and lower English proficiency first-year students into two clusters. Those who score under 50 are placed in English Foundation Course I, and students who score 50 or higher are enrolled in English Foundation Course II. In this study, the subjects were categorized according to English proficiency, and the researchers collected data from both courses to represent data from the weaker and stronger groups, respectively. However, it is important to note that this method might not have completely separated the weaker and stronger students as there may have been some whose scores were close to the borderline. With this categorization, the groups of students with lower and higher English proficiencies comprised 180 and 176 students, respectively.

Research Instrument

This study is derived from a large-scale ongoing research conducted by Gobel and Mori concerning the comparison of causal attributions between Japanese and Thai students. Questionnaires were used for data collection as this method helps researchers to limit the number of attributions and to have a clear focus for interpretation and generalization (Gobel & Mori, 2007). They pointed out that this quantitative method can also prevent the extensive number of variables and inadequate consistency in findings that may result from qualitative techniques such as open-ended questionnaires or interviews.

Two versions of the questionnaires were designed by considering the advantages of this method. The first version contained questions about successful learning experiences, whereas the second was about unsuccessful experiences. Each version consisted of two parts. In the first part, students were asked to choose an activity from a pre-prepared list or write one activity in which they had been either particularly successful or unsuccessful in the previous semester. In the second part, the students were asked to rate twelve causes given for success or failure on a six-point Likert scale. The attributions included ability, effort, strategy, interest, luck, teacher, task difficulty, class atmosphere, grades, preparation, likes, class levels (see Appendix A).

Research Procedures

The attribution questionnaires were compiled in English with subsequent consultations from Gobel and Mori, and then translated into Thai. After that, reverse translation was conducted to ensure the accuracy of translation. Eventually, the Thai version of the questionnaires was distributed to all subjects in their compulsory English classes at the beginning of the second semester. The students in each class were asked to respond to two sets of the attribution questionnaire about their learning experiences over the previous semester. The first half of the class responded to the questionnaire regarding successful learning activities, while the second half emphasized unsuccessful ones. They were also asked to think about the reasons for their success or failure from their learning experiences.

DATA ANALYSIS

The data collected from the two sets of the attribution questionnaire were analyzed quantitatively by using SPSS (Statistical Package for the Social Sciences). The frequencies and percentages of classroom activities chosen by

all subjects divided by their proficiency levels were reported. The data were also analyzed to establish the reasons for success and failure. Furthermore, the t-test was chosen to determine whether the reasons for success and failure, or the 12 causal attributions given by the students who were grouped by proficiency, were significantly different. The data collected on the 12 causal attributions were analyzed and classified according to the dimensions of locus, stability, and controllability.

RESULTS

Students' Causal Attributions for Success and Failure in English Language Learning

In order to investigate the students' beliefs about successful and unsuccessful classroom activities, the frequencies and percentages of the activities chosen by the subjects were computed. Both groups chose classroom activities related to reading skills as the most successful and unsuccessful (see Table 2).

TABLE 2
Beliefs about Successful and Unsuccessful Learning Skills

Scale for Successful Skills (n = 176)	(%)
Reading	60.5
Listening	12.8
Speaking	13.9
Writing	12.8
Scale for Unsuccessful Skills (n = 180)	(%)
Reading	38.2
Listening	21.8
Speaking	22.4
Writing	17.6

In other words, the results indicated that the subjects perceived reading as the skill at which they were most successful or unsuccessful. Reading seems to be perceived by the students as the most important skill for learning English. There are three possible reasons which might explain the results. First, the students' experience: they might have practised reading a lot in English class in the previous semester. Second, attitudes towards English: as these students are non-English majors, they generally regard English as being far less important than their major subject areas (Kongchan, 2001; Tepsuriwong & Pichaiattanasopon, 2002). However, they need reading skills to read text books assigned by content teachers in their field of studies. Finally, their area of study: most of them do not learn English for the sake of knowing English itself. They consider English to be just a tool to facilitate their study, especially in helping them to read text books.

When considering activities related to reading skills, we found that the subjects rated learning vocabulary as the most successful, but understanding grammar as the most unsuccessful (see Table 3).

It could be implied that the subjects interpreted vocabulary and grammar knowledge as the heart of effective reading, and thought that knowing a lot of vocabulary and using grammar correctly would help them successfully learn English. Additionally, the students might have experienced the traditional approach to learning where they had to learn a lot of vocabulary and grammar structures, rather than focusing on other skills, such as using English for communication.

For the attribution scores of the responses to the 6-point scale for success and failure, it can be seen from Table 4 that the subjects rated grades (5.24), teacher (4.67), effort (4.41) and class atmosphere (4.41) as the first four attributions which contributed to their success, while the other group considered ability (3.94), strategy (3.52), preparation (3.50) and effort (3.31) as the attributions for their failure. Interestingly, from the first four attributions rated, the subjects considered their effort as contributing to both success and failure. It seems that the subjects realized that their learning was their own responsibility whether they were successful or not. Moreover, all

TABLE 3
Beliefs about Successful and Unsuccessful Activities Related to Reading Skills

Scale for Successful Reading Activities	(%)
Reading texts using appropriate strategies	9.9
Answering comprehension questions	2.3
Learning vocabulary	21.5
Understanding grammar	7.0
Translating texts and passages from English	11.0
Reading and summarizing texts	4.7
Quizzes and exams	4.1
Other (Reading)	-
Total	60.5
Scale for Unsuccessful Reading Activities	(%)
Reading texts using appropriate strategies	2.9
Answering comprehension questions	1.8
Learning vocabulary	8.8
Understanding grammar	12.9
Translating texts and passages from English	4.7
Reading and summarizing texts	4.1
Quizzes and exams	2.4
Other (Reading)	0.6
Total	38.2

attributions for their perceived failure were internal attributions, and most of them were unstable and controllable. This could be interpreted as the subjects blaming themselves rather than external factors for being unsuccessful. Another interesting point is that, all things considered, the mean scores for the causes for success were noticeably higher than those for unsuccessful attributions. This could mean that the subjects perceived the causes for success as more crucial factors compared to the causes for failure.

TABLE 4
Causal Attributions for Success and Failure

Success Scale (n=176)	M	SD
Ability	3.44	0.10
Effort	4.41	0.81
Strategy	3.82	0.84
Interest	4.27	0.90
Luck	3.63	1.34
Teacher	4.67	0.97
Task	3.29	0.96
Class atmosphere	4.41	1.03
Grades	5.24	1.06
Preparation	3.84	0.83
Likes	4.14	1.09
Class Level	4.38	0.91
Failure Scale (n= 180)	M	SD
Ability	3.94	1.12
Effort	3.31	1.16
Strategy	3.52	0.95
Interest	2.72	1.29
Luck	2.46	1.38
Teacher	2.78	1.34
Task	2.90	0.98
Class atmosphere	2.78	1.27
Grades	2.93	1.69
Preparation	3.50	1.25
Likes	3.07	1.42
Class Level	2.89	1.36

A Comparison of Causal Attributions for Success and Failure between High English Proficiency Students and Low Proficiency Ones

The results show that more than half of both the lower (60.3%) and higher proficiency students (60.6%) chose reading activities as the activities at which they succeeded the most. Nearly one-third of the lower proficiency students (32.3%) and nearly half of the higher proficiency ones (46.7%)

perceived reading as least successful. Similar to the results for all subjects, regardless of their proficiency, they perceived reading as the skill at which they were most successful or unsuccessful. Not surprisingly, they also considered grammar and vocabulary as the two micro-reading skills affecting their success or failure in learning English.

The t-test was used to determine whether the attributions for success and failure given by lower and higher proficiency students were significantly different (see Table 5). This table is quite revealing on several points. First, there is a significant difference between the two groups for success attributions in terms of teacher influence, class atmosphere, level of the class and task difficulty, and $t = 2.890, 2.864, 3.135,$ and 2.061 respectively in which all comparisons were significant at $p < .05$. Surprisingly, all mentioned attributions are external, stable, and uncontrollable. Moreover, it can be noted that the lower proficiency group show higher ratings. This can mean that lower proficiency students feel stronger about success being due to external factors rather than internal factors like ability or effort. Second, both groups rate grades with the highest mean scores at 5.26 and 5.21, respectively. This suggests that the students tend to perceive grades as the benchmark for self-evaluation. Third, the lower proficiency students give the highest rating for grades, followed by teacher influence (4.82) when successful; while the higher proficiency ones feel that they succeed by their own efforts (4.45). Both groups do seem to have different perceptions of their success. Higher proficiency students tend to relate internal factors to their success, while the lower proficiency groups normally think of external factors as the causes for success.

TABLE 5
Causal Attributions for Success by Level of Proficiency

Attributions	Success		Higher proficiency		t-test results	
	Lower proficiency					
Ability	3.41	1.029	3.50	.937	t(174) = -.557	<i>p</i> > .05
Effort	4.39	.804	4.45	.823	t(174) = -.509	<i>p</i> > .05
Strategy	3.90	.862	3.67	.811	t(173) = 1.760	<i>p</i> > .05
Interest	4.32	.886	4.19	.902	t(174) = .864	<i>p</i> > .05
Luck	3.50	1.337	3.87	1.312	t(173) = -1.798	<i>p</i> > .05
Teacher	4.82	.924	4.38	1.003	t(173) = 2.890	<i>p</i> < .05
Task	3.40	.890	3.08	1.045	t(174) = 2.061	<i>p</i> < .05
Class atmosphere	4.57	1.064	4.11	.907	t(174) = 2.864	<i>p</i> < .05
Grades	5.26	1.005	5.21	1.175	t(174) = .303	<i>p</i> > .05
Preparation	3.89	.866	3.74	.767	t(174) = 1.206	<i>p</i> > .05
Likes	4.08	1.146	4.26	.974	t(174) = -1.094	<i>p</i> > .05
Class level	4.54	.894	4.10	.882	t(174) = 3.135	<i>p</i> < .05

For failure attributions, there is a significant difference between the two groups in terms of ability, class atmosphere, class level, interest, teacher and grades, and $t = 4.224, 4.512, 6.209, 4.263, 5.374$ and 6.611 , respectively. As can be seen from Table 6, higher proficiency students rate the scores on most of the attributions for failure higher than the weaker students do, except on ability. This might be because the higher proficiency ones had higher expectations of success than the lower proficiency ones. The lower proficiency students, by contrast, tend to blame their ability on unsuccessful performance. The higher proficiency students rate grades as the highest, while the lower proficiency ones attribute failure to their ability. As a whole, from the research findings it is not certain whether higher proficiency students perceived that their failures were caused by internal or external factors. However, lower proficiency students tended to perceive that they were unsuccessful in studying English because of internal factors, such as their own abilities and learning strategies.

TABLE 6
Causal Attributions for Failure by Level of Proficiency

Attributions	Failure				t-test results	
	Lower Proficiency	1.081	Higher Proficiency	3.55		
Ability	4.23	1.081	3.55	1.051	t(178) = 4.224	<i>p</i> < .001
Effort	3.33	1.079	3.29	1.263	t(177) = .226	<i>p</i> > .05
Strategy	3.57	.922	3.46	.996	t(176) = .734	<i>p</i> > .05
Interest	2.38	1.173	3.18	1.303	t(177) = -4.263	<i>p</i> < .001
Luck	2.37	1.380	2.59	1.367	t(177) = -1.065	<i>p</i> > .05
Teacher	2.36	1.004	3.37	1.522	t(178) = -5.374	<i>p</i> < .001
Task	2.87	.977	2.93	.984	t(177) = -.407	<i>p</i> > .05
Class atmosphere	2.43	1.044	3.25	1.396	t(177) = -4.512	<i>p</i> < .001
Grades	2.30	1.372	3.81	1.690	t(177) = -6.611	<i>p</i> < .001
Preparation	3.51	1.307	3.48	1.178	t(177) = .158	<i>p</i> > .05
Likes	3.04	1.336	3.11	1.547	t(177) = -.315	<i>p</i> > .05
Class level	2.40	1.000	3.57	1.509	t(178) = -6.209	<i>p</i> < .001

In short, by comparing the causal attributions of higher and lower proficiency students it is evident that both groups consider grades as a successful indicator. However, the higher proficiency group rates effort as the factor that facilitates their success, whereas the lower proficiency group puts external factors such as teachers and class level into consideration for their success, but puts the blame on their own ability when they fail.

To sum up, students perceived reading as the skill at which they were the most successful or unsuccessful. They undoubtedly put more emphasis on learning vocabulary and grammar, and considered these learning activities as very important factors affecting their success and failure. Effort was an attribution that the subjects considered as contributing to both success and failure. Generally, they considered both external and internal factors as attributions contributing to success and focused more on internal factors as causes for their failure. As a whole, the mean scores for the causes of success were noticeably higher than those for unsuccessful attributions. Both the lower and the higher proficiency students had different causal attributions for success and failure for several reasons. Those who had lower proficiency

showed a higher rating on most of the attributions. They tended to give credit to teachers while the higher proficiency group believed in their own efforts for success. By contrast, they blamed internal factors, such as their own abilities and strategies, for failure. However, both groups paid the most attention to grades, which, according to their perceptions, could easily indicate whether they were successful or not in language learning.

DISCUSSION AND IMPLICATION

There are two main issues suggested by the research results. Firstly, reading is perceived as the most successful or unsuccessful skill by most subjects. The students generally believe that knowing vocabulary and understanding grammar help them to be more successful in reading.

It seems like the students understood that knowing vocabulary and grammar helped them to master reading. This might be the result of their past English learning experience in that most teachers put a high emphasis on reading, particularly teaching vocabulary and grammar. They then might not be fully aware that learning English includes learning other skills rather than merely reading. Reading is actually one of the four language skills they have to master in order to be successful in learning English. Therefore, it may be implied that teachers should be aware of their students' perceptions of English language learning. Their attitudes towards English language learning should be radically changed to help them gain correct concepts. Teachers should pay more attention to other skills, and provide a variety of activities to cover all four language skills. English language classrooms should emphasize language use rather than usage, i.e. English for communication rather than merely as a school subject, focusing on learning grammar or reading. Teaching English is not just the teaching of reading or vocabulary and grammar. For science and technology students, even though they need to read a lot of textbooks in their majors, they still need other language skills in order to communicate, particularly in their workplace, should they want to work in

transnational companies and factories as nowadays, English has standardized as a working language in these companies. Many well-paid jobs in both the public and the private sectors in Thailand look for recruits who have a reasonably good command of English because English has become a powerful tool for carrying out international business and strengthening the economy (Raksaphet, 1991 as cited in Saengboon, 2004). Correct concepts for English language learning among science and technology students must be implanted at every level of their study.

The issue on how students interpret the causes of success and failure, and particularly the different views of those who have different levels of English proficiency, also provide some implications for teachers.

The present study reveals that both external and internal factors were attributed as factors contributing to success, but only internal factors were noted as causes for being unsuccessful. This issue has a strong influence on students' expectations and future performance, especially since they considered internal causes for failure where ability was rated as highest. Attributing past failures to ability is considered harmful. Students who attribute failure to internal factors, on their low ability in particular, generally perceive that they are unable to change their attributions which results in self-blame (Hussein & Samad, 2005). As a consequence, they tend to put less effort into language learning as they believe that no matter how hard they try, they would still fail. In contrast, if they believe that they failed because of inadequate effort, the students will later try harder to be more successful (Dörnyei, 2001). Although ability was found to be the highest rated attribution for failure, effort was an attribution that the subjects considered as contributing to both success and failure. The previous study evidenced that among the numbers of attributions, ability and effort seem to be the major causes which have been identified as the most influential. It has been shown that past failure that is ascribed by the learner to low ability hinders future achievement behaviour more than failure that is ascribed to insufficient effort (Weiner, 1992 as cited in Dörnyei, 2001). Therefore, from the findings as mentioned, attribution of this group of students can possibly be redirected to

be more positive.

Consequently, as suggested by Dörnyei (2001), the essence of promoting motivational attributions is to encourage students' effort attributions. In other words, teachers must put more emphasis on their students' learning efforts rather than blaming their lack of ability. This can be achieved by playing down the importance of ability as learners can control their learning effort to make them successful in learning situations. In classroom situations, if the teacher refers to ability too much, it may cause a negative result; some students will unavoidably come out badly in this respect, so this is a dangerous practice. These students generally have low motivation and feel that they cannot possibly achieve their goals no matter how hard they try (Gobel & Mori, 2007). They would not even try to succeed anymore because they simply would not believe that they could. This perception is dangerous as it will have a reciprocal effect on their learning, i.e. past failure inevitably leading to subsequent failure.

On the contrary, teachers have to argue to convince them that failure is due to lack of effort. Highlighting the role of effort is safe because effort facilitates future achievement and every student has an equal chance to make an effort, even those who might sense that they seem to have low ability or lack language aptitude. As stated by McDonough (1981), a student gives himself a greater reward when he thinks success is due to great effort, and he then feels most proud. If teachers can make students believe that higher levels of effort in general offer a possibility for success, they will persist in spite of the inevitable failures that normally accompany learning (Dörnyei, 2001). Perceptions towards their success or failure can undoubtedly facilitate or impede students' motivations in the EFL classroom and consequently have profound influence on their success and failure in foreign language learning in general. However, teachers have to deal with this circumstance with care to avoid opposite consequences. As mentioned by Gobel and Mori (2007), excessive praise on success, absence of blame when they fail as a result of lack of effort, and unsolicited help from teachers may have opposite results. The students might not try harder in subsequent tasks or just blindly wait for

the teacher to help them rather than helping themselves in learning situations.

The findings also suggest that the level of English proficiency plays a role in how teachers deal with the causal attributions of students. Those who have higher proficiency tend to relate internal factors such as effort to their success, while the lower proficiency groups normally think of external factors such as teachers and class level as the causes for success. By contrast, the higher proficiency students rated grade as the highest attribution for failure, while the lower proficiency ones rated their ability as the highest. To encourage motivation and expectation for success based on these findings, teachers could apply the methods as previously suggested, whenever appropriate.

One of the most important applications of attribution theory has been 're-attribution training' (Craske, 1988 as cited in Williams & Burden, 1997; Hastings, 1994). This consists of changing students' attributions so that instead of viewing failure as due to stable and uncontrollable factors, they begin to see it as controllable and unstable. In other words, they begin to see that they can have control over their learning outcomes. Attribution theory states that when learners believe that they have control over the outcome of an event, they are more motivated to continue efforts at learning (Lim, 2007). The other potentially useful outcome of taking such an approach is that, whilst syllabus context or student abilities may well be fixed and even unchangeable, perceptions are not. Thus, if students develop an unhelpful set of attributions to account for why they have failed on an educational task, it should be possible by means of attribution retraining to enable them to think and act in more positive ways, particularly in the case of foreign language learning in which teachers should emphasize the value of strategy training to enable students to learn more effectively (Williams et al., 2004).

Apart from taking dimensions into consideration, particularly internal or external locus, another interesting point is that the students as a whole group rated the causes for success as noticeably higher than those for unsuccessful attributions. This could imply that the subjects perceived the causes for success as more important factors compared to the causes for failure. This positive attitude facilitates higher motivation and enhances higher

expectations for future success in similar subsequent activities.

However, the results show that higher proficiency students rated the scores on most of the attributions for failure higher than the lower proficiency students did—except on ability. This might be because the higher proficiency ones had higher expectations of success than the lower. Accordingly, strategies to encourage and motivate students for success in subsequent tasks also depend on whether the students focus on their past successful or unsuccessful experiences. For instance, lower proficiency students, or those with failure-oriented perceptions focusing more on failure in this case, tend to accept their failure, thus they are demotivated to perform subsequent tasks (Hussein & Samad, 2005). In summary, teachers should encourage students, especially the low proficiency students, to pay attention to success rather than failure, and to pay more attention to effort rather than ability or other external uncontrollable causes, such as task difficulty, teachers, and grades.

CONCLUSION

As learners attribute different causes for their success and failure, knowing student perceptions allows teachers to be aware of those causes and to help their students to become motivated and try to achieve their goals by focusing more on positive ways of thinking rather than simply focusing on negative results. Awareness of students' causal attributions facilitates teachers' understanding of the underlying reasons of student performance. As a result, when teachers deal effectively with this psychological aspect, it will motivate students to perform in a more desirable way. On the whole, learners tended to react differently to different attribution elements depending on the degree of success they perceived. Apart from focusing on successful performance, unsuccessful learning should not be neglected because being unsuccessful does not always undermine a student's motivation. The important point for the teacher to be aware of is how students make attributions for their failure, which may influence how they approach future tasks. How the perceptions of

success or failure facilitate their future performance in a more positive way seems to be more important than just blaming students when they are unsuccessful without understanding the real causal reasons of failure and how to prevent future failure in more meaningful ways.

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Science and Engineering Students' Attributions for Success and Failure in the EFL Classroom

7. Reading quizzes and exams
8. Other reading activities _____
9. Understanding a listening passage using appropriate strategies
10. Listening and repetition/dictation
11. Listening and note taking
12. Listening quizzes and exams
13. Other listening activities _____
14. Giving a presentation and/or speech
15. Role play
16. Giving opinions/sharing ideas in class/groups
17. Answering teacher's questions
18. Speaking quizzes and exams
19. Other speaking activities _____
20. Writing a summary
21. Writing paragraphs
22. Writing diaries and/or portfolios
23. Writing a report
24. Writing quizzes and exams
25. Other writing activities _____

2. There may have been many reasons why you did **WELL** on the activity you just circled. The following statements are possible reasons why you might have done **WELL**. Read each statement and circle the letter to indicate the extent to which you agree or disagree with each statement.

- | | |
|---------------------|------------------|
| A Strongly disagree | D Somewhat agree |
| B Disagree | E Agree |
| C Somewhat disagree | F Strongly agree |

Statements	A	B	C	D	E	F
I have strong skills in English.						
I tried very hard.						
I used the right study or practice methods.						

5. Translating texts and passages from English
6. Reading and summarizing texts
7. Reading quizzes and exams
8. Other reading activities _____
9. Understanding a listening passage using appropriate strategies
10. Listening and repetition/dictation
11. Listening and note taking
12. Listening quizzes and exams
13. Other listening activities _____
14. Giving a presentation and/or speech
15. Role play
16. Giving opinions/sharing ideas in class/groups
17. Answering teacher's questions
18. Speaking quizzes and exams
19. Other speaking activities _____
20. Writing a summary
21. Writing paragraphs
22. Writing diaries and/or portfolios
23. Writing a report
24. Writing quizzes and exams
25. Other writing activities _____

2. There may have been many reasons why you did **POORLY** on the activity you just circled. The following statements are possible reasons why you might have done **POORLY**. Read each statement and circle the letter to indicate the extent to which you agree or disagree with each statement.

- | | |
|---------------------|------------------|
| A Strongly disagree | D Somewhat agree |
| B Disagree | E Agree |
| C Somewhat disagree | F Strongly agree |

Statements	A	B	C	D	E	F
I have weak skills in English.						
I didn't try very hard.						

I used the wrong study or practice methods.

I had no interest in the activity.

I had bad luck.

The teacher's instruction was inappropriate.

The task was difficult.

I didn't like the atmosphere of the class.

I no interest in getting a good grade.

I was ill-prepared.

I don't like English.

The level of the class was inappropriate.
