

Investigation and Analysis of Attribution Bias Between Teachers and Students in EFL (English as a Foreign Language) Classes in China

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ABSTRACT

This research is to test attribution disagreements between students and teachers in classes in China under the theoretical framework of attribution bias. The teacher-student dyad analysis proves to be a more reliable way to test attribution bias when the number of teacher samples fails to match that of student. It is revealed that disagreements between students and teachers concerning outcome evaluation, causal perception, and future expectancy do exist in foreign language teaching and learning, which provides valuable suggestions on the enhancement of students' performance in foreign language acquisition.

Keywords: *Causal attribution, Self-serving bias, Fundamental attribution error, Teacher-student dyad.*

1. INTRODUCTION

In order to deeply study the way people behave in daily life, American social psychologist Fritz Heider (1944)[5] proposed the concept of naive psychology in the 1940s. The core of this theory points out that what affects people's behavior is their perception of the event, not the event itself. If it is necessary to explain the result of an event or the behavior of others, people usually classify it as internal and external factors. This is the early attribution theory. Bernard Weiner (1979[11], 1980[12], 1986[14]) developed a form of attribution theory, believing that in academic or other achievement situations, learners will attribute their success or failure and then affect the subject's learning mood and motivation. Weiner (1985)[13] found that people usually divide the reasons for success or failure into four groups, namely ability, effort, luck, and task difficulty. These factors can be divided into internal causes and external causes according to their specific properties (locus), and can be divided into two dimensions of stability and instability according to their stabilization. For example: in the four groups of common attributions, ability and effort are internal factors, luck and task difficulty are external factors; at the

same time, ability and task difficulty are stable factors, while effort and luck are unstable factors. More importantly, different attributions for success or failure will have different impacts and consequences on the individual's reaction to events, expectations for future success or failure and behaviors.

At present, attribution theory is increasingly applied to the research of language teaching and language learning and other related fields, and some progress has been made on the basis of early achievement motivation research (Cao, 2014[15]; He, 2010[17]; Wang, 2011[18]; Xu, 2008[19]). However, most studies still remain in the unilateral exploration of individual learners' internal mechanisms, while ignoring the interaction mechanism between teachers and students in language teaching. The self-attribution mechanism of students is the focus of previous research, such as self-esteem, success expectation, task continuity and other aspects. At the same time, teachers' attribution of students' task success or failure has also been paid attention to by some scholars. Then, when students and teachers deal with the same learning task, are their attribution tendencies different? Will these similarities and differences affect the future teaching process? How does

attribution, as a universal psychological feature in the process of people's behavior and dealing with matters, play a role in communicative activities? This article starts from the two directions of students and teachers, and through paired sample analysis, explores the attribution differences between the two teaching parties in foreign language teaching in China and their possible impact.

2. RESEARCH BACKGROUND

2.1 Wiener Model

Human beings are social animals, and the individual's expectations for survival and success depend on their ability to understand, predict and influence the behavior of others. Observing others is an inevitable instinctive behavior of human beings. However, people are not only content to observe the superficial behavior of others, but also to infer the reasons why they do what they do. Social psychology calls this psychological process of analyzing and explaining the causes of behavior as attribution theory (Morris, Ames, & Knowles, 1997)[10]. The initial framework of attribution

theory began with Heider's (1958)[6] analysis of people's communicative behaviors. He believed that the individual's response to the social situation is a function of the individual subjectively organizing various stimuli in the social environment through attribution. On this basis, Weiner (1985)[13] designed an attribution model of achievement motivation.

Weiner (1985[13], 1986[14]) believed that in a certain achievement task, the role of attribution is the individual's emotional and cognitive response to success or failure. There are three dimensions in his attribution model: internal and external sources, stability, and controllability. According to the dimensions of internal and external sources, the causes of success or failure can be divided into internal causes and external causes. The dimension of stability refers to the timeliness of the cause, that is, the permanent or changing state of the cause over time, which can be divided into stability and instability. The controllability dimension is divided into controllable and uncontrollable according to the degree of controllability of the cause ("Figure 1").

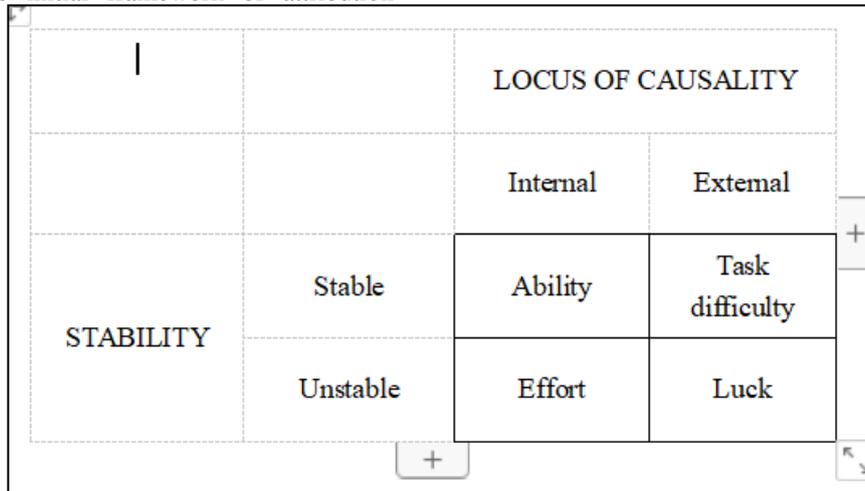


Figure 1 Dimension diagram of four main attribution factors.

Each dimension of cause is related to a certain psychological phenomenon. The dimension of internal and external sources will affect individual self-esteem. If success is attributed to internal factors, one will have sense of pride, and if it is attributed to external factors, one will have a fluke mind. Attributing failure to internal factors such as low ability will frustrate self-esteem and make people produce a sense of shame; if failure is attributed to external factors such as bad luck or interference from others, it is easy to breed anger.

The stability dimension is related to changes in expectations of success or failure. In short, cause, cause dimension, psychological response, and behavior result are in a dynamic interaction, forming a complex multi-dimensional interaction effect.

2.2 Attribution Bias

In the research of attribution phenomenon, psychologists have pointed out that people often

make wrong logical deduction when attributing. The influence of social environment on the attribution process may be the cause of such errors. People tend to avoid responsibility when they fail, and when they succeed, they over-exaggerate personal credit. The attribution errors that are driven by this kind of psychology are called attribution bias in the field of social psychology. With the development of attribution behavior research in the academic field, researchers have found that the behavior and emotional response caused by attribution bias are the main reasons for misunderstanding and even discrimination in teaching interaction.

2.2.1 Actor and Observer

When discussing the phenomenon of attribution, it mainly focuses on two objects: actor and observer. The actor refers to the subject who makes the behavior, and the observer refers to the subject who sees a certain behavior of others and speculates on the psychological state of the actor.

In the classroom environment, both teachers and students are both actors and observers. The learning process is the most critical link in the educational background. In the study of actors, the psychological state and behavior of students are the focus of attention, and teachers act as observers to judge and evaluate students' behaviors. Then, the differences between actors and observers found in empirical research can be used to explain the biases of teachers and students in the attribution process.

2.2.2 Fundamental Attribution Error and Self-serving Bias ("Figure 2")

Heider's gestalt perception theory (Heider, 1958)[6] pointed out that people's response to the social environment is a function of subjectively organizing various stimuli in the social environment. It is the brain's overall response to different attributes and interrelationships of things. Attribution is one of those reaction activities. Heider believes that the fundamental attribution error stems from this process of gestalt perception. The attributor uses his known theories and his observed results to speculate on the cause of the event. However, if his observational content is disturbed by subjective feelings and even emotions during this process, he may make wrong judgments. For example, the observer pays attention to the internal characteristics of the observed person, while ignoring the influence of the other person's environment. Such attribution errors that exaggerate internal factors can have a significant impact on the observer's subsequent expectations, evaluations, and behaviors. The same is true in the field of education. When students have unsatisfactory test results, teachers often involuntarily blame the students for not studying hard or their lack of learning ability. Teachers attribute students' failures to internal factors such as intelligence or hard work, which will reduce their expectations of students' future success and may breed teachers' dissatisfaction with students, thereby reducing their attention to students.

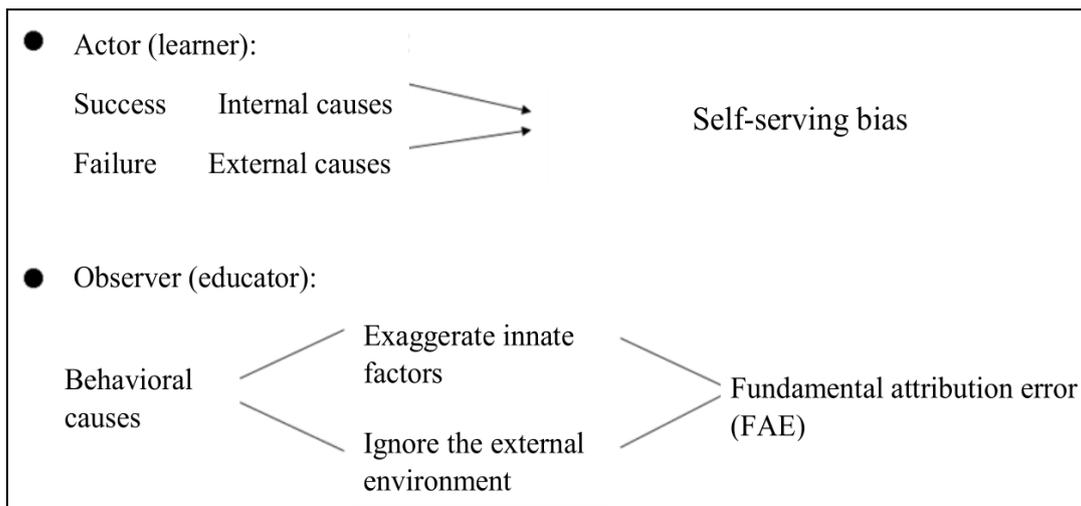


Figure 2 Fundamental attribution error and self-serving bias.

In the study of fundamental attribution errors, Jones and Nisbett's (1972)[8] pointed out that although the behavior of others is objectively visualized for the observer, the environment is objectively visualized for the actor himself. Therefore, he tends to ignore some internal subjective factors when attributing his behavior. Andrews (2001)[2] believed that this tendency of self-enhancement stems from their desire to use their own attribution propositions to influence or even control the attribution of others. People's internal attribution of the behavior of the actor is to gain recognition and respect from others, but when they pass this information to others, the communication itself is distorted, leading to the tendency of exaggerating personal reputation or slandering others' reputation. This distortion of attribution can be explained by the difference between the actors and observers in attributing the strengths and weaknesses of personal qualities and attributing success or failure. For example, actors tend to attribute success to their own abilities, and to attribute failure to bad luck or insufficient effort; observers attribute the success of others more to good luck or others' efforts, and attribute failures to the lack of abilities of others. This attribution difference between actors and observers is called self-serving bias, which is the inevitable result of personal self-improvement strategies. In other words, people tend to overestimate their own positive role in relationships and underestimate their own faults; at the same time, people see themselves positively, so they give themselves credit, and the main strategy they adopt in the face of failure is to cover it up.

2.2.3 Attribution Bias in the Educational Environment

According to the previous argument, individuals will have attribution bias when inferring the cause. Then, in an educational environment, students and teachers, respectively, as the subject and object of behavior, will also diverge when evaluating the same results: teachers tend to attribute students' test results to innate factors, while students tend to attribute them to environmental factors (Jones & Nisbett, 1971)[7]. At the same time, they will attribute success to internal stability factors and failure to external instability factors. Both parties will exaggerate their contribution to a successful outcome while shirking responsibility for causing a failed outcome.

In a study on self-serving bias, the researcher arranged for teachers and students to evaluate the success or failure of the students' test scores and tested their attribution tendency. The results showed that approximately 255 students had different assessments of their exam success or failure from their teachers. However, when teachers and students agreed on the issue of success or failure, their attribution tendencies also appeared to be highly consistent (Darom & Bar-Tal, 1981)[4].

Juvonen (1988)[9] again tested the attribution differences between teachers and students in the classroom environment in 1988. Teachers and students respectively evaluated and attributed a math test score. After analyzing the attribution average and the evaluation results of each group, the researcher found that 33% of the students' evaluations of success or failure were not consistent with their teachers, and the teachers' evaluations were more positive than the students. When teachers and students evaluated the results in agreement, their average attribution index didn't show a significant difference, proving the test conclusion of Darom and Bar-Tal (1981)[4]. However, the analysis of paired samples of teachers and students showed that they had great differences in the attribution index. When teachers and students rated the test results as failures, their paired attribution differences were related to the differences in the improvement measures they thought should be taken in teaching; in addition, the difference in attributable stability was directly proportional to the difference in future expectations.

The attribution bias between teachers and students in foreign language teaching may cause conflicts between teachers and students, bring unpleasantness, distrust and other negative emotions (Bar-Tal & Frieze, 1976)[3], and cause communication barriers in teaching and learning. If students over-exaggerate environmental factors, especially unstable factors, in their success or failure attribution, then their expectations of future success or failure will be quite different from their teachers. Compared with students, teachers are more likely to think that students will repeat the results of this exam in the next exam. Attribution and expectation will affect the behavior of the individual. Therefore, the bias of attribution and expectation will inevitably lead to deviations in future behavior, which leads to differences between teachers and students on the content and methods of future classroom teaching, making them enter the awkward situation of teaching offsetting learning.

3. RESEARCH MODEL DESIGN

3.1 Theoretical Framework and Model Design

This research will be carried out on the basis of attribution theory, with self-serving bias and fundamental attribution error as the theoretical framework. In the teaching environment, students are the actors of learning tasks. They tend to maintain a positive self-image by attributing success to internal factors and failure to external factors. On the other hand, as the supervisor of the

learning process, teachers mainly observe the behavior of how students achieve their learning goals. They will overemphasize students' innate factors when interpreting students' performance. The two different attribution cognitive processes of students and teachers also lead to different emotional reactions and different behavioral consequences. In addition, based on the relationship between causal stability and expectation, it is proposed in the hypothesis model that stability is positively correlated with expectation in a successful situation, while stability is negatively correlated with expectation in a failure situation ("Figure 3").

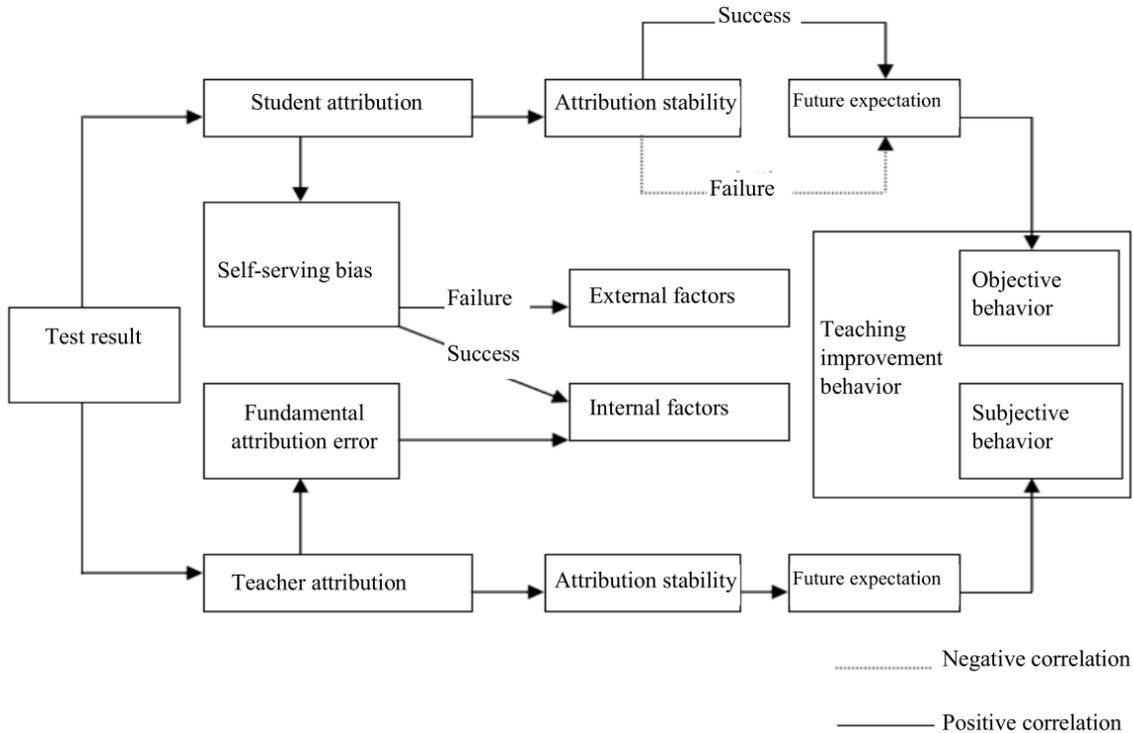


Figure 3 Hypothetical model diagram.

3.2 Testee Selection

The testees in this research were 6 English teachers and 104 sophomores in their classes from a key university in Xi'an. The tested students came from 6 non-English major classes with different majors, including accounting major, applied chemistry major, finance major, automatic control major, biology major and electronics major. Such arrangement was to try to avoid data errors caused by a single knowledge structure. Several tested teachers had been serving as public English teachers for the tested students since they entered the university, and they had a better understanding of the students' abilities, personality, learning

attitude, and knowledge mastery. The tested students included 45 girls and 59 boys, and the tested teachers included 3 female teachers and 3 male teachers.

3.3 Research Data Collection

This research was carried out in the form of a questionnaire, which tested the attribution preferences of teachers and students at the same time in the same learning task.

3.3.1 Questionnaire Design

In attribution research, independent variable manipulation, task roles, and task feedback must be consistent. In order to reduce the experimental error, 35 students and 35 college English teachers were randomly selected from the undergraduates. They were asked to list the key factors that led to the success or failure of students' English learning based on their previous learning or teaching experience. The results showed that students and teachers had a high degree of agreement on this

issue. The reasons were sorted according to the frequency of occurrence, the top ten reasons with the highest frequency were selected from each group for analysis ("Table 1"), and 14 reasons were determined finally as the attribution variables in this success or failure attribution study, including ability, effort, luck, task difficulty, learning strategy, learning environment, learning interest, classroom teaching, classroom participation, help from others, preparation before test, test psychology (tension/calmness), test status (fatigue/excitement), and degree of carefulness.

Table 1. The top ten items considered by teachers and students to lead to success or failure in learning

Student (n=35)%				Teacher (n=35)%			
Success		Failure		Success		Failure	
Effort	83	Effort	77	Learning interest	90	Effort	92
Preparation before test	80	Learning strategy	74	Learning strategy	80	Learning interest	90
Classroom participation	57	Listening to the teacher in the class	66	Ability	71	Learning strategy	88
Degree of carefulness	57	Preparation before test	66	Effort	69	Preparation before test	76
Learning strategy	51	Carelessness	51	Listening to the teacher in the class	67	Ability	56
Learning interest	43	Learning interest	40	Calmness	67	Task difficulty	45
Personal energy	43	Classroom teaching	40	Degree of carefulness	58	Learning environment	44
Ability	34	Task difficulty	31	Preparation before test	56	Listening to the teacher in the class	37
Learning environment	34	Fatigue	26	Help from others	44	Carelessness	33
Classroom teaching	28	Tension	23	Classroom participation	35	Luck	20

The questionnaire was divided into two groups: students and teachers. All questionnaires included test score evaluation, attribution survey, stability survey, future expectation survey, and teaching improvement suggestion survey. The two groups of questionnaires each consisted of three parts. In the first part, the tested students and the teachers were required to evaluate the students' English learning in the past two years and evaluate the success or failure of the latest mid-term exam results. The evaluation of success or failure was divided into 5 levels: level (1) meant failure, (5) meant success, and the success index increased from level (1) to level (5). Among them, level (3) meant the uncertainty about the success or failure of the test results, and the teachers and students who chose level (3) were further required to only make judgments of success or failure and no longer make an evaluation of the degree. On this basis, the questionnaire surveyed the attribution tendency, cause stability and future expectations of the tested students and teachers of the test. Each of the attributions was marked with 7 levels, level (1) was definitely not caused by this reason, and level (7) was definitely caused by this reason. The degree of attribution gradually increased from level (1) to level (7). The second part of the questionnaire

investigated the suggestions of students and teachers for teaching reform, and selected eight measures for key evaluation based on internal and external factors. The third part of the questionnaire required students to provide their personal information in order to match the information from the teacher's questionnaire.

3.3.2 Data Collection

In order to ensure the accuracy of the data, the research didn't test the tested students individually, but chose to conduct a questionnaire survey after the semester examination. The test was the normal standardized test of the school and the content included listening, grammar, vocabulary, reading and writing. After the test, the tested students and teachers respectively took a questionnaire survey. The authors of this article promised the testees the confidentiality of the results of the investigation and guaranteed that the results would only be used for scientific research and would not be disclosed to the outside world or the other party of the testees. This measure was mainly to ensure that the survey results could truly reflect the psychological state of the tested students and teachers.

After obtaining the data, firstly, the SPSS software was used to calculate the two sets of data of students and teachers, and the attribution average and standard deviation of the two groups of testees respectively were obtained then. Then, the two sets of data were matched. According to the evaluation of the test results by the students and teachers, the 104 sets of data were divided into two groups: one group was the result matched group, that was, the students and teachers had the same evaluation of the success or failure of the test results, and the other group was the mismatched group, that was, students and teachers had different assessments of the success or failure of the test results. The data of the mismatched group couldn't be used for the measurement of attribution bias, namely, it became invalid data. For the data of the matched group, due to the small number of selected teachers tested, the measurement of the average deviation of the group was of little significance. Therefore, the method of pairing detection was introduced to measure each group of matching data.

4. RESULT ANALYSIS

4.1 Success or Failure Evaluation Analysis

Among 104 groups of student-teacher questionnaires, 7 groups were invalid due to incorrect filling in. Therefore, the remaining 97 groups of valid questionnaires were further analyzed.

In the valid questionnaires, 18 students were uncertain about the success or failure of the test results, by contrast, only 3 teachers were uncertain about the success or failure of the results. When asked to confirm success or failure again (no degree judgment), 15 students and 2 teachers finally defined the result as failure, and the remaining 3 students and 1 teacher defined the result as success.

In the 97 sets of questionnaires, 35 sets of questionnaires of the student-teacher success or failure evaluation mismatched, accounting for 36% of the total. Among them, 32 students evaluated as failure but their teachers evaluated as success; 3 students evaluated as success and their teachers evaluated as failure ($p < .05$). The remaining 62 groups of questionnaires were matched questionnaires, namely, teachers and students agreed on the success or failure of the test results, accounting for 64% of the total. Among them, the results of 42 groups of evaluation were failure, and 20 groups of evaluation were success ("Table 2"). It could be seen from the above data that students had

higher requirements for their academic performance than teachers, and they were more inclined to define test results as failure; however, teachers were more tolerant and optimistic about test results, and hoped to define students' test results as success.

Table 2. Comparison of student-teacher success or failure evaluation of results

Student	Teacher		In total
	Failure	Success	
Failure	42	32	74
Success	3	20	23
In total	45	52	97

4.2 Attribution Tendency Analysis

In order to detect the attribution differences between students and teachers, two different statistical methods were used. First, ignoring the number of teachers, each tested student questionnaire and tested teacher questionnaire were conducted by T test to judge whether there was a difference between the average attribution values of the two parties. Second, it was to detect student-teacher paired samples and analyze specific attribution differences.

4.2.1 Attribution Average

Since the data of the mismatched group couldn't be used to measure the attribution bias, only 62 questionnaires of the matched group were analyzed for attribution. Since there were only 6 teachers tested, the teacher's questionnaire for each student was used as a sample to analyze the attribution average. The results showed that in the matched group that evaluated the results as failure, the students attributed their failures mainly to learning strategy ($M=5.48$), effort ($M=5.45$), preparation before test ($M=5.31$), and learning interest ($M=5.48$). Only a very small number of students attributed their failure to fatigue ($M=2.88$), task difficulty ($M=2.83$) and luck ($M=2.45$). The statistics of teacher attribution data showed great similarity with students. They also tended to attribute failure to effort ($M=5.60$), learning strategy ($M=5.52$), preparation before test ($M=5.31$) and learning interest ($M=5.05$), while luck ($M=2.21$) and fatigue ($M=2.10$) were regarded as the least influential factors. Through a single variance T test, it was found that only the T value of ability, learning environment and fatigue was greater than 2.0 ($p < .05$), there was a significant difference, and there were no significant differences in other factors.

In the matched group that evaluated the results as success, students considered excitement (M=6.00), effort (M=5.80), degree of carefulness (M=5.70), learning strategy (M=5.60), and ability and calmness (M=5.30) as the most important success factors, while teachers believed that learning interest (M=5.70), effort (M=5.60), preparation before test (M=5.50), and ability (M=5.20) were essential elements for success. At the same time, both teachers and students believed that luck and help from others had little effect on

success. However, the attribution tendency of the two groups of testees to success also showed a huge difference. For example, teachers' attribution average of test psychology (calmness) and test status (excitement) was far lower than that of students. The T test showed that teachers and students also had significant differences in the attributions of learning environment, degree of carefulness, classroom teaching, help from others, and luck. ("Table 3")

Table 3. Student-teacher attribution average, standard deviation and T value

Attribution	Student		Teacher		T value
	M	SD	M	SD	
Failure (n=42)					
Ability	3.33	1.92	2.55	1.61	2.02
Effort	5.45	1.92	5.60	1.42	-0.41
Luck	2.45	1.42	2.21	1.20	0.84
Task difficulty	2.83	1.65	2.83	1.29	0.00
Learning strategy	5.48	1.33	5.52	0.89	-0.16
Learning environment	4.17	1.90	3.36	1.16	2.36
Learning interest	5.17	1.95	5.05	1.41	0.32
Classroom teaching	3.67	1.72	3.31	0.92	1.20
Classroom participation	4.26	1.81	4.50	1.45	-0.67
Help from others	3.02	1.76	2.67	1.03	1.11
Preparation before test	5.31	1.44	5.31	1.26	0.00
Tension	3.52	1.85	3.69	1.72	-0.44
Fatigue	2.88	1.88	2.10	1.04	2.35
Carelessness	3.52	1.82	3.86	1.12	-1.03
Success (n=20)					
Ability	5.30	1.34	5.20	0.42	0.32
Effort	5.80	1.40	5.60	0.97	0.53
Luck	4.00	2.26	2.80	1.23	2.09
Task difficulty	4.30	1.42	4.10	1.10	0.50
Learning strategy	5.60	1.35	5.40	0.70	0.59
Learning environment	4.90	2.02	3.20	0.42	3.68
Learning interest	5.00	1.76	5.70	0.95	-1.57
Classroom teaching	5.10	1.79	4.00	0.47	2.66
Classroom participation	4.10	1.60	4.90	1.20	-1.79
Help from others	3.90	2.02	2.70	1.34	2.21
Preparation before test	5.20	1.48	5.50	0.97	-0.76
Calmness	5.30	1.95	3.20	0.92	4.36
Excitement	6.00	1.15	3.00	0.67	10.08
Degree of carefulness	5.70	1.34	4.40	0.84	3.68

4.2.2 Analysis of Attribution Differences Between Paired Samples

When detecting the difference between teacher and student attribution averages, the number of tested teachers was ignored, and the number of questionnaires was used as a sample for statistics. Therefore, the significant difference obtained by the

T test may not be universal. In order to make up for this shortcoming, the differences in the sample of 62 teacher-student pairs in the matched group were analyzed. The attribution levels of teachers and students in each pair of questionnaires were compared. If the level difference was ≥ 3 , it would be defined as having attribution bias. The comparison result is shown in "Table 4":

Table 4. Analysis of attribution bias of paired samples

Attribution	%	S > T	S < T
Failure (n=42)			
Ability	26	6	5
Effort	17	1	6
Luck	14	5	1
Task difficulty	24	6	4
Learning strategy	10	2	2
Learning environment	29	7	5

Learning interest	17	4	3
Classroom teaching	17	6	1
Classroom participation	17	3	4
Help from others	12	4	1
Preparation before test	12	2	3
Tension	17	3	4
Fatigue	17	3	4
Carelessness	26	2	9
Success (n=20)			
Ability	5	0	1
Effort	10	1	1
Luck	20	2	2
Task difficulty	5	1	0
Learning strategy	5	1	0
Learning environment	25	3	2
Learning interest	5	0	1
Classroom teaching	15	2	1
Classroom participation	10	1	1
Help from others	15	3	0
Preparation before test	10	0	2
Calmness	25	5	0
Excitement	35	5	2
Degree of carefulness	10	2	0

a Note: % means the percentage of the number of pairs of samples with attribution level difference between teachers and students ≥ 3 to the total number of samples in the matched group. If $S > T$, the student attribution level is higher than the teacher attribution level. If $S < T$, the student attribution level is lower than the teacher attribution level.

Among the 42 pairs of samples who evaluated the results as failures, teachers and students had biases in the attribution of factors such as learning environment, ability, carelessness and task difficulty. Students were also more inclined to attribute their failure in the exam to objective or unstable factors such as luck, classroom teaching, lack of effort, and carelessness. In the success group, nearly 1/3 of the samples had attribution bias in the test status (excitement) item, and another 25% and 20% of the samples showed attribution bias in the factors of learning environment and carefulness, respectively. Compared with teachers, students were more inclined to attribute their good performance in exams to a calm mental state; while teachers paid more attention to the role of preparation before test than students.

To a certain extent, the results of the paired sample test were consistent with the results of the average difference measurement, which meant that when teachers and students agreed on the success or failure of the same result, they would have different judgments on the cause of this result, namely, attribution bias did exist in this specific environment.

4.3 The Relationship Between Attribution Bias and Teaching Behavior

According to the above analysis, it is found that the evaluation of success or failure of the same academic result by students and teachers is not necessarily the same. And when their evaluations are the same, there will be differences in the analysis of the causes. So will these differences have an impact on teaching improvement opinions?

4.3.1 Teaching Improvement Suggestion Deviation

The above average method was still used to measure the average of the teachers and students' suggestions for teaching behaviors in the matched group, and no significant difference was found. The T values of the eight variables didn't reach the significant level ("Table 5"). Similarly, due to the limited number of teachers tested, it is not possible to conclude from this that teachers and students are in complete agreement about the improvement of English language teaching. The following paired sample analysis can help analyze this problem more clearly.

In the analysis of paired samples, differences of 3 levels or more were still defined as significant differences. "Table 6" showed that in the group evaluating as failure, nearly 1/4 of the samples had significant differences in the items of "teachers' providing more help", "understanding students better", and "students' being more cooperative with teachers in teaching". Students were more inclined to think that teachers' help was important for them

to improve their grades, while teachers advised students more to improve their grades by adjusting their learning strategies and making more efforts. Compared with this, the teachers and students of the success group also had differences in teachers' help and understanding. Teachers in this group also believed that to maintain excellent academic performance, students must rely on correct learning methods and their own efforts.

Table 5. Teaching behavior average, standard deviation and T value

	Failure (n=42)					Success (n=20)				
	Student		Teacher		T value	Student		Teacher		T value
Teaching behavior	M	SD	M	SD		M	SD	M	SD	
Improve teaching methods	5.02	1.67	4.67	1.16	1.12	4.80	2.20	5.00	1.05	-0.37
Improve teaching environment	4.57	1.71	4.45	1.13	0.38	4.60	2.12	4.50	0.71	0.20
Teachers provide more help	4.71	1.52	4.50	1.38	0.66	4.60	1.90	4.90	1.29	-0.58
Teachers understand students better	4.60	1.50	4.10	1.34	1.61	4.50	2.42	3.80	0.63	1.25
Change learning methods	6.07	1.66	6.38	0.79	-1.09	5.40	2.07	6.00	0.67	-1.23
Study harder	6.14	1.73	6.74	0.54	-2.15	5.40	2.22	6.20	0.79	-1.52
Enhance classroom participation	5.52	1.45	5.81	1.25	-0.98	5.30	2.00	4.90	0.99	0.80
Be more cooperative with teachers in teaching	5.29	1.57	5.67	1.39	-1.17	4.90	2.08	4.70	1.06	0.38

Table 6. Analysis of paired samples of teaching improvement suggestions

	Failure (n=42)			Success (n=20)		
	%	S < T	S > T	%	S < T	S > T
Teaching improvement suggestions						
Improve teaching methods	10	3	1	15	2	1
Improve teaching environment	10	2	2	5	1	0
Teachers provide more help	26	4	7	20	2	2
Teachers understand students better	21	3	6	25	2	3
	Failure (n=42)			Success (n=20)		
Change learning methods	7	3	0	15	3	0
Study harder	12	5	0	10	2	0
Enhance classroom participation	19	4	4	15	1	2
Be more cooperative with teachers in teaching	24	6	4	10	1	1

a Note: % means that the percentage of the number of pairs of samples with a level difference ≥ 3 between teacher and student teaching improvement suggestions to the total number of samples in the matched group (There are 7 levels in total. The first level means being not helpful at all, and the seventh level means being very helpful. The intensity of help increases from 1 to 7 levels. If $S < T$, the student evaluation level is lower than the teacher evaluation level; if $S > T$, the student evaluation level is higher than the teacher evaluation level.

4.3.2 The Relationship Between Attribution Bias and Teaching Improvement Suggestion Bias

In order to know whether the attribution bias between teachers and students will affect their future teaching behaviors, researchers calculated the attribution deviation value (the absolute value of the attribution difference between teachers and students) and the deviation value of the teaching improvement suggestion (the absolute value of the deviation of teacher and student's teaching improvement suggestions), and calculated the correlation between the two.

The results showed that in the group evaluating as failure, the attribution deviation value was positively correlated with the deviation value of the teaching improvement suggestion ($r = .49, p < .01$). In the success group, there was no correlation between the two ($r = .32, p < .01$); further calculations showed that the attribution level of the students in the success group had no correlation with their teaching improvement suggestion level. This showed that when the test results were relatively satisfactory, students thought that there was no need to make major improvements in teaching behavior. At the same time, when teachers and students both evaluated the test results as failure, the greater the attribution difference

between them, the greater the difference in their expectations for future teaching behavior.

4.4 The Analysis of Attribution Stability and Expected Future Success or Failure

When discussing attribution issues, there are two extremely important variables that need to be examined, namely the stability of attribution and the expectation of future success or failure. Three assumptions are made here: (1) Attribution stability is related to future expectation; (2) The stability deviation between teachers and students is related to the deviation of expectation; (3) Expectation deviation is related to behavior deviation.

4.4.1 The Correlation Coefficient Between Attribution Stability and Future Expectation

Researchers calculated the correlation coefficient between attribution stability and future expectation in the tested student group. The results showed that in the group evaluating as failure, the more stable the students believed that the cause of failure, the lower their expectation of future success ($r = -.51, p < .01$). Conversely, the more students in the success group believed that the reasons for their success were stable, the higher their expectations for future success ($r = .46, p < .05$). Of course, the correlation coefficient of the success group only reached the level of .05, indicating that the correlation between the two variables in this group was lower than that of the failure group.

4.4.2 The Analysis of Paired Sample Deviation of Stability and Expectation

Among the 42 pairs of samples in the failure group, 18 pairs of teachers and students had different stability coefficients. Among them, the stability of the students' evaluation of 12 pairs of

samples was lower than their teachers ($p < .05$). Among the 20 pairs of samples in the success group, 7 pairs of samples existed differences, and the evaluation coefficient of students in 4 pairs of samples was lower than that of teachers ($p < .05$).

In the expectation analysis, 14 pairs of samples in the failure group had differences, among which 10 pairs of students had higher expectations for future success than teachers. Among the 20 pairs of samples in the success group, 6 pairs of samples had significant differences, and the teachers in the 5 pairs of samples had higher expectations of the students' future success than the students themselves ($p < .10, ns$).

Researchers then calculated the correlation coefficient between the deviation value of the stable paired sample and the deviation value of the expected paired sample. The results showed that in the failure group, the correlation coefficient between the two was .42 ($p < .01$), that was, the greater the difference in stability, the greater the difference in expectation. In the success group, there was no significant difference between the two ($r = -.23$).

4.4.3 Future Expectations and Suggestions for Teaching Improvement

Finally, researchers calculated the correlation between the difference in expectations between teachers and students and the difference in suggestions on teaching improvement. By measuring the paired sample difference index (absolute value), researchers found that there was no significant correlation between the two in the context of success ($r = -.16$) or failure ($r = .20$). This showed that students' expectations of good grades were not too directly related to the behavioral measures they might take. ("Table 7")

Table 7. Variable relevance model

Variable		1	2	3	4	5	6
1. Attribution bias	F						
	S	----					
2. Stability	F						
	S		----				
3. Future success expectation	F		-.51**				
	S		.46*	----			
4. Stability deviation	F						
	S				----		
5. Expectation deviation	F				.42**		
	S				-.23	----	
6. Teaching improvement suggestion deviation	F	.49**				.20	
	S	.32				-.16	----

a Note: F = failure, S = success. * $p < .05$. ** $p < .01$.

Researchers tested the correlation between the three sets of variables. In the failure situation: 1) Attribution bias was positively correlated with teaching improvement suggestion deviation ($r = .49, p < .01$); 2) Stability deviation was positively correlated with expectation deviation ($r = .42, p < .01$); 3) Expectation deviation had no correlation with teaching improvement suggestion deviation ($r = .20, ns$). In a success situation, none of the above three sets of variables were correlated. On the other hand, stability and expectation were positively correlated in a success situation and negatively correlated in a failure situation.

5. VERIFICATION MODEL

The final verification model is based on the hypothetical model with minor changes, consistent with the principles shown by the research data, and maintains the basic attribution structure in the Wiener model ("Figure 4"). The research hypothesis proposes that students, as actors in foreign language learning, will be affected by self-serving bias, and tend to attribute failure to external factors and success to internal factors. On the other hand, teachers are observers in learning activities. They are susceptible to the influence of external environmental factors when attributing the behavior of actors, and basic attribution errors occur. Paired sample analysis shows that the deviations of teachers and students in terms of ability, effort, luck, learning environment, and classroom teaching

reflect the attribution tendency proposed in the hypothesis.

At the same time, the research results also verify the hypothesis that differences in attribution will lead to differences in behavior. Students tend to attribute failure to external factors such as the learning environment or classroom teaching. Therefore, they hope to strengthen the subjective weaknesses by adjusting the corresponding external factors. In addition, teachers believe that the main reasons for the failure of the exam include laziness or incorrect learning methods, and they will accordingly advise students to improve their academic performance by strengthening their learning intensity or improving their learning methods. From this, it can be seen that the difference between the teacher-student pair samples for teaching improvement suggestions is more obvious in the failure group, and the teachers and students of the success group are more likely to reach agreement on each improvement suggestion item.

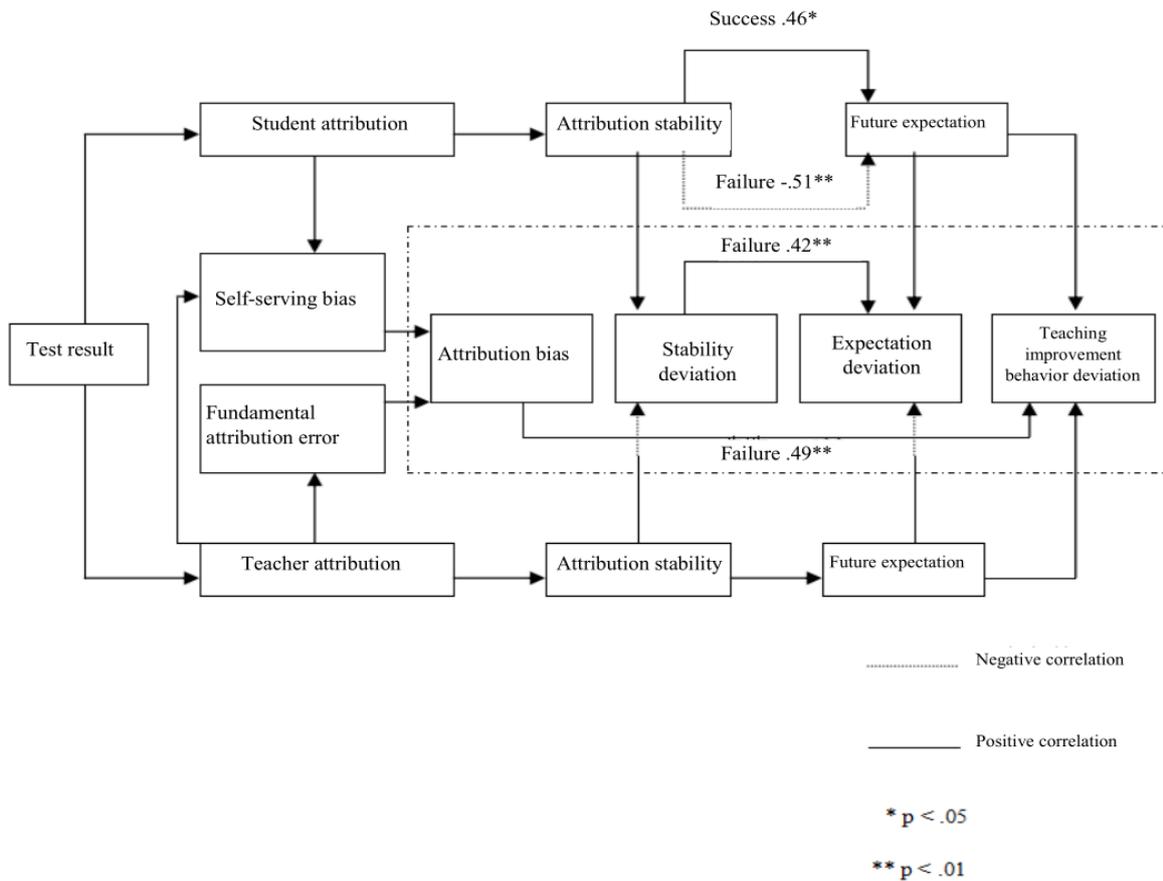


Figure 4 Verification model diagram.

In the original hypothetical model, the researchers propose that the expectation and stability in the success group are positively correlated, and in the failure group, the two are negatively correlated. The test results prove that the hypothesis is valid among the tested students, that is, the more stable the cause of success, the higher the expectation of future success; conversely, the more stable the cause of failure, the lower the expectation of future success. What's more, the numerical values show that the paired sample difference parameters of teacher-student stability and expectation in the failure group also have a very high correlation, namely, when teachers and students evaluate the test results as failure, the greater the difference between them in stability parameters, and the greater the difference in future expectation parameters. In the success group, there is no obvious correlation between the above parameters.

There is no obvious correlation between future expectations and teaching improvement suggestions, which may be because the expectation is only a dependent variable of stability. Regardless

of the testees' expectations for the future, they will hope to improve their foreign language mastery by adjusting both internal and external factors.

In short, the results of the research show that self-serving bias does lead to differences in the perception of the same learning performance between teachers and students. Students improve their positive self-image and learning motivation through high standards of learning performance and maintaining high expectations of success, while teachers avoid disappointment and responsibility by setting low standards and low expectations, which is another manifestation of self-serving bias.

6. CONCLUSION

Based on the above research data, the researchers find that in foreign language teaching in universities, teachers and students have differences in the evaluation of success or failure, attribution tendency, and expectation. The results of the paired sample study show that they also have significant differences in their opinions on the improvement of future teaching behaviors, and this difference is

positively correlated with their attribution bias. This result verifies the researchers' assumptions about self-serving bias and fundamental attribution error. The difference in perceptions between teachers and students about the success or failure of test scores indicates that teachers and students have not effectively communicated on issues such as performance evaluation, attribution, and future expectations (Cheng Yu et al., 2019)[16]. Researchers believe that both teachers and students should strengthen effective communication and exchanges in order to improve the effectiveness of foreign language teaching.

This research fails to involve the reasons for the difference in attribution between teachers and students. However, researchers believe that some classroom teaching factors and individual differences between teachers and students may be the cause of attribution bias. For example, compared with younger students, older students are more likely to disagree with their teachers, their individual awareness is stronger, their personal experience is richer, and their cognitive tendency toward attribution is relatively more independent. In addition, the personality differences between students and teachers may also be the cause of attribution bias. For example, different life and social backgrounds may lead to cognitive differences. Teachers and students with similar life backgrounds also have similar cognitive standards in terms of cognition of success or failure and attribution tendency. What's more, some classroom values (such as: cooperation, competition, individualism, collectivism, etc.) may also affect the value orientation of individuals, leading to the appearance of attribution bias. Ames (1984)[1] once pointed out that certain value orientations will directly affect some specific performance information (such as: social comparison) and attribution (such as: ability, effort). It can be inferred from this that the higher the consistency of the value orientation between students and teachers, the easier it is for them to reach agreement on the emotional cognition of teaching. Without doubt, other variables related to the differences in emotional cognition between teachers and students need to be further studied by researchers.

AUTHORS' CONTRIBUTIONS

Yu Cheng is responsible for research design and manuscript writing; Yuerong Gao collected and analyzed data; Haiyan Wang contributed to revising and editing the manuscript.

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