Research On The Influence Of COVID-19 Epidemic On Students' Learning Self-Efficacy: A Case Study Of Panzhihua University

Tian Yu   Zhang Jian

(School of Foreign Languages, Panzhihua University, Panzhihua 617000, Sichuan, China)

Abstract:

Self-efficacy is crucial in autonomous learning, as external factors can greatly influence it. Specifically, when discussing self-efficacy in the context of learning, it is referred to as learning self-efficacy. This study aims to examine the impact of the COVID-19 outbreak on students' learning self-efficacy by investigating changes in their internal cognition and external social environment. Drawing upon Bandura's self-efficacy theory and relevant literature in psychology and pedagogy, the author proposes a hypothetical model and administers a questionnaire to collect data. The hypothesis is then tested by analyzing responses from 421 English majors at Panzhihua University, including students from different academic years. The collected data is analyzed using SPSS26 software. The findings reveal that the COVID-19 outbreak has adversely affected students' learning goals, learning anxiety, sense of learning control, and the online learning environment. However, it did not significantly impact students' learning interests and social-emotional support. Despite the increase in learning anxiety and the challenges posed by the online learning environment, these factors did not show a significant negative correlation with students' sense of learning self-efficacy. In conclusion, the COVID-19 pandemic primarily affects students' learning self-efficacy by influencing their learning goals and sense of learning control.

Key words: Learning self-efficacy, COVID-19, autonomous learning, English majors

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I. Introduction

The COVID-19 epidemic has been affecting people's lives since 2019, and of course, it has greatly impacted students' studies and life. First, many universities immediately adopted online teaching at the beginning of the epidemic. Students face this sudden change in learning methods, and, likely, they will not adapt to the change in learning methods. Although online education can ensure the safety of students, network failures, equipment problems, and other factors may affect students' academic performance. Moreover, a good learning atmosphere is rare because college students want to study at home. Students may be disturbed by noise from family members or the outside world, which may affect the student's learning results. In addition, due to the epidemic's impact, some colleges and universities need to adjust the course content or duration, which may affect students' learning plans and cause learning pressure. Finally, there is psychological pressure. The

uncertainty and tension caused by the epidemic may hurt students' psychology and affect their academic performance. Students need to cope with these changes, and if they cannot adapt, their self-efficacy in learning may decline. Exactly how much impact the epidemic will have on students' learning self-efficacy and whether students have a strong ability to adapt to the environment are worth studying.

Self-efficacy is a term coined by the American social psychologist Albert Bandura (1925 —). It refers to an individual's belief in their ability to perform a task successfully and their subjective judgment or confidence in achieving it. External factors like the environment, verbal persuasion, direct experience, and emotional state influence self-efficacy.

A search using three keywords - "Learning Self-efficacy," "COVID-19 epidemic," and "English Major" - did not yield any related articles, indicating that the impact of the COVID-19 epidemic on students' learning self-efficacy has not been studied in China. Consequently, this research is important for English majors engaged in autonomous learning. The study aims to bridge this gap in knowledge.

Social Cognitive Theory, Published by East China Normal University Press in 2001, has mentioned that American psychologist Bandura A. first proposed the concept of Self-efficacy in the late 1970s. He believes that self-efficacy refers to people's confidence or belief in their ability to complete a certain task or work and is a subjective judgment of whether they can successfully perform a certain achievement [2]. Self-efficacy is a belief in the ability of an individual to accomplish a particular task through the mobilization of self-motivation, cognition, and other resources in a certain environment. Alternative experience, social persuasion, and physiological and emotional state are the main factors affecting the individual's self-efficacy, which is affected by the external environment [15]. Self-regulated learning (SRL), also known as autonomous learning, is proposed by Zimmerman et al . It emphasizes that students can actively acquire knowledge, which is manifested in that students use their meta-cognitive monitoring to actively learn, actively set goals, monitor their learning process and adjust the learning process in time according to the learning results.

Some researchers (Cheng Ming, 2022) have found that there is a significant correlation between autonomous learning and self-esteem [11] and self-efficacy [10][11]. As for the relationship between self-efficacy and English autonomous learning ability, the research results of scholars such as (Zimmerman, 2000) are consistent; that is, there is a significant positive correlation between self-efficacy and English autonomous learning ability [4][5]. Some scholars, such as (Zhang Li, 2015), mentioned in her article that self-efficacy can be considered to have a significant impact on students' autonomous learning [6].

Changes in the environment can influence students' autonomous learning by affecting their self-efficacy in learning. The epidemic environment brings changes in the learning environment and interpersonal relationships to college students, and the changes in the employment and living environment can also bring psychological pressure on students to adapt. Moreover, some studies (Liu Qiong, 2021) have found that self-efficacy can influence learning motivation and learning behavior through goal setting, self-monitoring, strategy use, and self-evaluation, thereby regulating the process and results of individual autonomous learning [3]. In addition, the epidemic will affect students' emotions and emotions, Recognition of the major studied and their sense of control. In addition, the change in students' learning methods from offline to online learning is equally interesting. Wang Chenhong (2018) mentioned in her research that the post-pandemic era's normalization of online teaching has become an inevitable trend [13]. This research aims to study the effect of epidemic situations on students' self-learning efficacy through a questionnaire survey of college students.

II. Theoretical Basis and Research Hypothesis
Theoretical Support of Hypothesis Model and Questionnaire Design

The social cognitive theory, represented by Bandura, posits that the environment, individual cognition,

and behavior have a relationship of independence, interaction, and interdependence. Bandura refers to this interaction as "ternary interaction determinism." This theory provides a fresh perspective on understanding the mechanism of individual behavior and highlights the significance of cognitive factors in behavior change. It also emphasizes the influence of the individual's social environment on their behavior.

According to Bandura's self-efficacy theory, self-efficacy is influenced by external environments, emotional states, experiences, and vicarious experiences. The COVID-19 pandemic has brought about changes in students' learning environments, which can impact foreign language learning anxiety—an emotional factor closely tied to changes in the external environment. Foreign language learning anxiety, a major emotional factor affecting English learners, can lead to negative emotions such as worry, depression, doubt, fear, and helplessness, potentially resulting in learning burnout. Foreign studies have shown a significant negative correlation between learning anxiety, learning burnout, and self-efficacy [11].

The sense of basic abilities includes components such as "learning result belief," "sense of accomplishment," "self-expectation," and "self-confidence." The sense of control comprises elements such as "self-doubt," "susceptibility to interference," "negative environmental perception," and "sense of effort [18]." According to the achievement goal theory [20], learning goals represent learners' expectations of achieving and fulfilling their needs in learning tasks. Learning goals are internal activities of individuals and play a crucial role in determining students' learning success. There is a significant positive correlation between learning goals and learning self-efficacy, as individuals with strong learning goals tend to have higher levels of self-efficacy [8].

There is a close relationship between learning Interest and self-efficacy. This connection reflects the positive and constructive nature of learning, involving the establishment, monitoring, adjustment, motivation, and execution of learning goals [27].

In addition, the change in university students' learning environment will inevitably lead to a change in college students' social-emotional support. Cobb(1976: 300) Think that social support is "the individual's perception of care, affection, respect, and attention from the outside world to create a sense of identity with their network" [7]. As far as students are concerned, "social support is mainly for the care and help of teachers and classmates they have obtained at school, and spiritual encouragement and affirmation", Ghaith (2002:263-264) [1]. Through empirical research, the social support obtained by learners and the degree of friendly and harmonious relationships with classmates can largely predict their academic success or failure [9]. Based on the above research theories, this study designed questionnaires and hypotheses about the impact path of the epidemic on self-efficacy from six dimensions: learning objectives, learning interests, learning anxiety, learning control, and changes in the online learning environment and social-emotional support.

Research Model Assumptions

This research focuses on students from the School of Foreign Languages and Cultures at Panzhihua College as the study participants. The aim is to examine the impact of the COVID-19 pandemic on various aspects of their learning, including learning objectives, learning Interests, learning anxiety, learning control, online learning environment, and social-emotional support. The study categorizes personal learning goal clarity, learning interest, learning anxiety, and learning control as internal factors. On the other hand, the dimensions of the online learning environment and social-emotional support are considered external factors. The model believes that the epidemic's impact on students' self-efficacy in learning will manifest in the factors listed above. The hypothetical model is as follows:
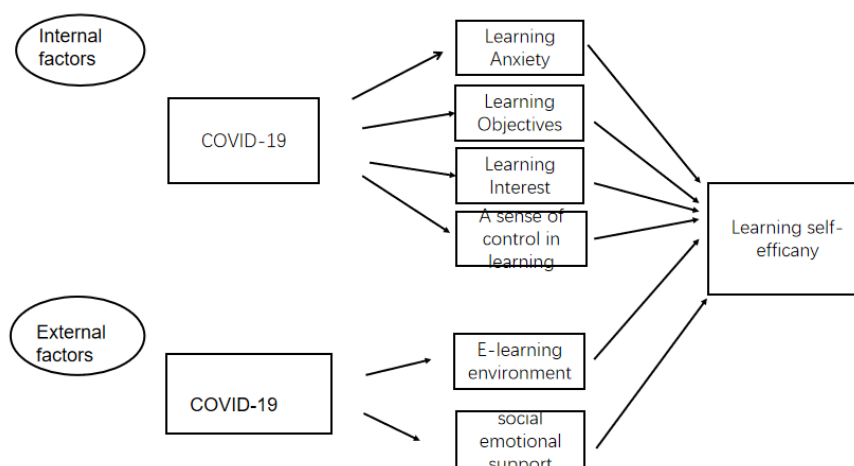
Chart 1

The following methodology was employed in this study to validate the proposed assumptions and investigate the impact of the COVID-19 pandemic on students' learning experiences.

III. Research Object and Method

In this section, the author mainly explains the research objects and methods.

Research Object

The study randomly selected 421 students majoring in English from different academic years (freshmen to seniors) at Panzhihua College as subjects. The online questionnaires were distributed using the Sojump platform from February 23, 2023, to February 27, 2023. Out of the total responses received, 245 questionnaires were deemed valid after data screening, resulting in an effective rate of 61%.

After further screening, the author identified 172 questionnaires from students who responded "Yes" to the question regarding their arrangement of autonomous learning. Among these participants, there were 17 males and 155 females. It is important to note that all students were informed about the study and consented to participate.

The distribution of participants based on their academic year was as follows: freshmen accounted for 48.3%, sophomores accounted for 22.7%, juniors accounted for 23.8%, and seniors accounted for 5.2%.

The table below presents the basic information derived from the valid questionnaires：

Classes	Options				
		Frequency	Percentage	Effective Percentage	Cumulative percentage
Gender	Male	17	9.9	9.9	9.9
	Female	155	90.1	90.1	100
Grade	Sophomore	39	22.7	22.7	22.7
	Junior year	41	23.8	23.8	46.5

	Senior year	9	5.2	5.2	51.7
	Freshman	83	48.3	48.3	100
Professional	Translation	34	19.8	19.8	19.8
	Business English	39	22.7	22.7	42.4
	English language and literature	99	57.6	57.6	100
	Total	172	100	100	

Table 3-1

Research Method

Based on relevant research at home and abroad, a questionnaire was compiled based on the changes in the learning environment caused by the epidemic, learning objectives, learning interests, emotional emotions, learning control senses, and the influence of learning basic ability senses. The questionnaire consists of two parts. The first part is a survey of students' basic information, including gender, age, majors, and whether they will arrange autonomous learning. The second part includes six factors: learning environment, learning objectives, learning Interest, learning anxiety, learning control, social-emotional support, and a survey of learning self-efficacy. The dimension of the learning objective comprises two kinds of topics: the clarity of the learning objective and the degree of influence on learning self-efficiency. The learning interest dimension is composed of the level of learning interest and the influence on learning Interest from COVID-19. The intensity of individual learning control determines the dimension of learning control and whether the sense of learning control is affected by the epidemic situation of COVID-19. Self-efficacy dimensions include persistence in learning goals and confidence in accomplishing goals. The dimension of learning anxiety is composed of the degree of learning anxiety and the impact of epidemic situations on learning anxiety. The dimension of the network learning environment comprises three questions: network learning equipment problems, the problem of not participating in offline practice, and the problem of lack of learning atmosphere. Social-emotional support includes students' Recognition of social-emotional support and the impact of the COVID-19 epidemic on individual social-emotional support.

The evaluation level of all topics is 5 points (very consistent), 4 points (relatively consistent), 3 points (general), 2 points (relatively inconsistent), and 1 point (very inconsistent). The higher the sum score of each item, the higher the score of this dimension. For example, the higher the score of the learning control dimension, the student has a strong sense of learning control. Analyze Cronbach's consistency confidence (alpha) of each dimension of the questionnaire and delete the items. After the reliability analysis of the questionnaire, the reliability questions affecting the consistency of various dimensions were eliminated. Analyze the reliability and validity of the questionnaire.

Analysis Tool

The obtained data from the questionnaire will be analyzed using SPSS26.0. Descriptive statistics and correlation analysis will be performed in different sections to explore the relationships between variables.

Before the analysis, the author conducted a reliability and validity assessment of the questionnaire, consisting of 28 items. The results indicated a reliability coefficient of 0.779, which suggests good internal consistency among the items. The validity coefficient was 0.872, indicating that the questionnaire is a valid measure for the intended constructs.

For data analysis, the author plans to utilize the average (mean) and coefficient of correlations. The

average, or mean, is a statistical measure representing a dataset's central tendency. It is calculated by summing up all the values in a dataset and dividing by the number of data points. The average indicates the general trend or typical value within the dataset.

The correlation coefficient measures the strength and direction of the linear relationship between two variables. It quantifies the degree to which the variables are related to each other. The correlation coefficient ranges from -1 to +1, with positive values indicating a positive correlation, negative values indicating a negative correlation, and values close to zero indicating a weak or no correlation.

By conducting descriptive statistics and correlation analysis, the author aims to gain insights into the characteristics of the data and explore the relationships among the variables in the study.

IV. Research Data

According to the data collected by the questionnaire and then analyzing the data of SPSS.26, the author obtains the following data.

Average Number of Factors Affected by COVID-19

Based on the information provided, the mean (average) and standard deviation of each factor affected by the epidemic can be obtained from Table 4-1. Here are the average values for each factor:

Network learning environment factors are affected: The average score is 3.20. Learning objectives are affected: The average score is 3.19. Learning anxiety caused by the epidemic: The average score is 3.4331. The epidemic has weakened students' sense of control in learning: The average score is 3.22. The epidemic has reduced students' Interest in learning: The average score is 2.92.

	N	Minimum	Max	Mean	Standard Deviation
The COVID-19 pandemic affects the online learning environment	172	1.00	5.00	3.20	1.007
Influence of Epidemic on Learning Goals	172	1.00	5.00	3.19	.865
The epidemic has reduced students' Interest in learning	172	1.00	5.00	2.92	1.040
COVID-19 outbreak leads to learning anxiety	172	1.00	5.00	3.43	.967
The COVID-19 pandemic has weakened student's sense of learning control	172	1.00	5.00	3.22	.875
Number of valid cases (in series)	172				

Table 4-1

Scores for Internal Factor Dimensions

Table 4-2 shows that the students surveyed in this questionnaire scored 3.366 for their 'learning goal clarity'; The score for learning Interest is 3.689; 'Learning control score is 3.211; 'Learning anxiety' is 3.279.

	N	Minimum	Max	Mean	Standard Deviation
Target clarity	172	1.00	5.00	3.3663	.76443

interest in learning	172	1.00	5.00	3.6890	.77274
Learning control sense	172	1.00	5.00	3.2112	.65681
degree of learning anxiety	172	1.00	5.00	3.2791	.99297
Number of valid cases (in series)	172				

Table 4-2

Scores for External Factor Dimensions

Table 4-3 shows a score of 3.20 for 'Web Learning Environment Not Suitable'; The score of ' the delay of activities and various competitions is not conducive to the cultivation of capabilities' is 3.23; 'Lack of learning atmosphere' scored 3.66; 'Friends' encouragement can enhance my learning confidence' score is 4.16; The score for 'lack of encouragement and support during the epidemic' was 2.91.

	N	Minimum	Max	Mean	Standard Deviation
Web Learning Environment Not Suitable	172	1.00	5.00	3.20	1.007
the delay of activities and various competitions is not conducive to the cultivation of capabilities	172	1.00	5.00	3.23	.998
Lack of learning atmosphere	172	1.00	5.00	3.66	1.073
Friends' encouragement can enhance student's learning confidence	172	1.00	5.00	4.16	.868
Lack of social support leads to a decrease in learning confidence	172	1.00	5.00	2.91	1.094
Number of valid cases (in columns)	172				

Table 4-3

Scores for Learning Self-efficacy Dimension

Based on the results, the score for basic ability sense is 3.463, which suggests that the students in this study possess a relatively strong ability to adapt to the physical and mental changes brought about by the epidemic, allowing them to maintain a better learning state. Basic ability sense can be considered a form of self-efficacy, indicating that the students have confidence in their capabilities and can effectively adjust themselves in response to the challenges posed by the epidemic. This positive self-efficacy concerning basic competence contributes to their overall learning self-efficacy.

	N	Minimum	Max	Mean	Standard Deviation
Ability Sense	172	1.00	5.00	3.4632	.73919
Number of valid cases (in series)	172				

Table 4-4

Correlation Analysis of Double Variables

Based on Table 4-5, the coefficient of correlations between learning self-efficacy and several dimensions are as Table 4-5. Table 4-5 shows that the coefficient of correlation between learning self-efficacy

and learning target clarity is 0.538 (r = 0.538, P< 0.01), the coefficient of correlation with learning control sense is 0.590 (r = 0.590, P< 0.01), the coefficient of correlation with learning interest is 0.366 (r = 0.366, P< 0.01), and the correlation with social-emotional support is 0.243 (r = 0.243, P< 0.01). In other words, there is a significant positive correlation between learning self-efficacy and the four factors. However, learning anxiety and social-emotional support had no significant positive correlation.

The correlation coefficient between learning anxiety and learning self-efficacy was 0.43, but P > 0.05, so even if the correlation coefficient was > 0.2, it was insignificant. This shows a certain relationship between learning anxiety and self-efficacy, but this is not a certain relationship. In addition, although significant, the correlation coefficient between the online learning environment and learning self-efficacy was less than 0.2. This shows a weak correlation between the e-learning environment and learning self-efficacy. Although there are statistically significant relationships, the intensity of these relationships is relatively low.

In a word, the analysis of the coefficient of correlation shows that the relationship between learning self-efficacy and the dimension of learning anxiety and network learning environment exists, but it is relatively weak. This means that learning anxiety and the web-based learning environment do not have a significant impact on self-efficacy. Other factors and variables may have a greater impact on learning self-efficacy.

		The ability for basic ability	Learning Goal Clarity	Web Learning Environment	learning interest	learning anxiety	Sense of learning control	Social emotion support.
Fundamental Ability	Fundamental Ability Perception Pearson Correlation	1	.538**	.16*	.366**	.043	.590**	.243**
	Sig. （Twin tail）		.000	.036	.000	.585	.000	.001
	Number of Cases	172	172	172	172	172	172	172
**. At the 0.01 level (double-tailed), the correlation is significant.								

Table 4-5

Analyzing the correlation between the dimensions on the research hypothesis map can help to understand the relationship between the epidemic situation and the dimensions, as well as their impact on learning self-efficacy. By examining the correlations, you can identify the strength and direction of the relationships, which can provide insights into the hypotheses and their validity. To conduct this analysis, you can calculate the coefficient of correlation (such as Pearson's coefficient of correlation) between each pair of dimensions and learning self-efficacy. The coefficient of correlations will indicate the extent of the relationship between the variables, ranging from -1 to 1.

For example, suppose you want to analyze the relationship between the epidemic situation (represented by factors such as learning environment and social-emotional support) and learning self-efficacy. In that case, you can calculate the coefficient of correlations between these factors and learning self-efficacy. Similarly, you can examine the correlations between other dimensions, such as learning objectives, learning Interest, learning anxiety, learning control, and learning self-efficacy.

Analyzing the correlation matrix will allow you to identify which dimensions have a significant

relationship with learning self-efficacy and which ones may not show a significant correlation. This analysis will provide insights into how the epidemic situation affects different aspects of students' learning and their overall self-efficacy in the learning process.
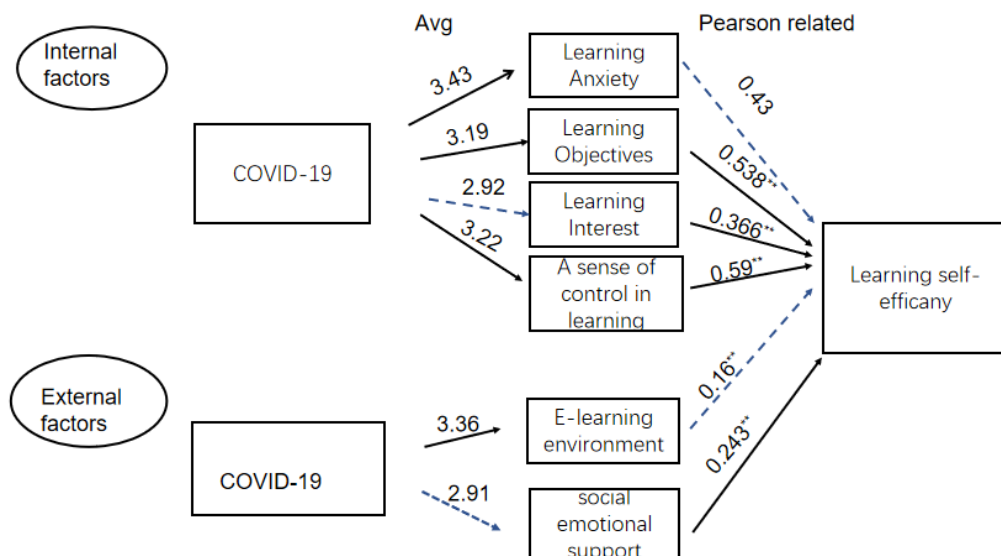

Chart 2

They represented the data on the previous hypothetical model, like Chart 2. The results obtained differ from previous assumptions. The first is that the impact of COVID-19 on students' learning interests and social-emotional support has not been recognized by most people as assumed, so in the previous assumptions, the two paths of 'The COVID-19 epidemic will affect students' self-efficacy in learning by affecting students' learning interests' and 'COVID-19 epidemic will affect students' self-efficacy through affecting students' social, emotional support' are not valid. Moreover, there was no significant correlation between learning anxiety and learning self-efficacy. It shows that although the epidemic has increased students' learning anxiety, the resulting learning anxiety has not affected students' self-efficacy in learning. The coefficient of correlation between changes in the online learning environment and learning self-efficacy was less than 0.2, which was a weak correlation. Although the epidemic has created an unsuitable learning environment for students, the unsuitable learning environment does not affect students' self-efficacy. In the next part, the author makes an in-depth analysis and discussion of the research results.

V. Discussion of Research Results and Solutions

Internal Factors

The author divides the dimensions of the epidemic of learning objectives, learning Interests, learning anxiety, and learning control into internal factors and the following data discussion on the impact of internal factors and solutions for each factor.

Learning Anxiety Dimension

The average score for the dimension "COVID-19 epidemic increases learning anxiety" is above 3.4 points, indicating that the COVID-19 pandemic has indeed heightened students' learning anxiety. The score for

the learning anxiety dimension is 3.279, but it does not correlate significantly with learning self-efficacy. The coefficient of correlation is 0.42 (r = 0.42, P > 0.05), suggesting that students' learning anxiety does not significantly impact their learning self-efficacy.

One possible explanation for this result is that students have demonstrated a strong ability to adapt to online learning. Research conducted by Lu Xiaoliang (2020) revealed that 42% of college students turned to online platforms to alleviate psychological pressure [16]. Moreover, our society is undergoing rapid development in the market economy, and the education system is constantly undergoing reform. These changes can easily influence the formation of values and behaviors among college students. University freshmen are inevitably influenced by values such as hedonism, neoliberalism, cynicism, Buddhism, and the pursuit of immediate gratification [9].

While students can independently adjust their anxiety levels, prolonged anxiety can lead to feelings of inferiority, mental stress, vegetative disorders, tension, and anxiety. Therefore, paying closer attention to students' emotional well-being is crucial. According to social learning theory, individuals learn thoughts, emotions, and behaviors by observing and imitating others. When students receive positive feedback and support, they become more willing to explore new learning strategies and thought processes. Additionally, cognitive-behavioral theory suggests that individuals can overcome anxiety and stress by adjusting their thinking patterns and behavioral approaches.

By considering these psychological theories and understanding the impact of anxiety on students' learning, educators and institutions can provide the necessary support and guidance to help students effectively manage their anxiety and promote a positive learning environment.

While providing students with positive support and feedback, it is also necessary to provide encouragement and help when they face difficulties. It is important to help students grasp and refine effective learning strategies and assist them in adjusting their attitudes, such as fostering positive thinking and optimism. Providing students with positive psychological hints can enhance their learning experience.

Learning Objective Dimension

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They offered students positive support and feedback while also providing encouragement and assistance when facing difficulties. It is important to help students grasp and refine effective learning strategies and assist them in adjusting their attitudes, such as fostering positive thinking and optimism. Providing students with positive psychological hints can enhance their learning experience.

Learning Interest Dimension

The scores for learning objectives affected by the COVID-19 epidemic were 3.19, and the scores for the dimension of students' learning objectives were 3.36. These scores exhibited a positive correlation with the perception of basic abilities at a significance level of 0.01, with a coefficient of correlation of 0.538 ($r = 0.538$, $P < 0.001$). This data indicates a strong relationship between learning self-efficacy and learning objectives. Learning objectives play a crucial role in students' learning motivation. Learning objectives encompass the actions, time, and resources invested by students to achieve predetermined goals in the learning process. Goal-setting theory suggests that clear learning goals and self-feedback are essential for achieving desired learning outcomes. Furthermore, self-determination theory emphasizes activating students' learning interests, values, and autonomy to foster their learning initiative. Thus, guiding and stimulating students' personal motivation, self-awareness, and goal-setting abilities, can effectively enhance their learning initiative.

Learning Control Sense Dimension

The score for the dimension "Students' learning control feels the impact of the epidemic" was 3.22, indicating that the epidemic indeed influenced students' sense of learning control. Furthermore, there was a positive correlation between the dimension of learning control and students' learning self-efficacy ($r = 3.59$, $P < 0.001$). This suggests that a higher sense of learning control corresponds to a stronger awareness of one's basic abilities. Learning control refers to an individual's perception and evaluation of the degree of control over their behavior in the learning process. A student's level of control over their behavior during learning can significantly impact their learning efficiency.

Learning efficiency is the ratio of effective learning results obtained per unit of time to the learning input. In theory, learning control and learning efficiency are closely interconnected. Research indicates that individuals who perceive a high sense of control over the learning process and outcomes are likelier to pay attention to learning details and effectively manage their time and resources to accomplish learning tasks. Conversely, individuals who feel a lack of control or helplessness are more prone to feelings of discouragement and reduced motivation, which can diminish their learning efficiency.

By understanding the importance of learning control and its impact on learning efficiency, educators and students can focus on developing strategies and techniques that enhance students' sense of control, thereby improving their overall learning outcomes.

External Factors

The author categorizes the external environment into two main aspects: the online learning environment and social-emotional support. Social support encompasses material and emotional assistance provided to individuals by their closely connected social networks [21]. It is a significant factor that influences individuals' psychological well-being and learning outcomes.

Web Learning Environment Dimension

The network learning environment refers to the artificial environment constructed by information technology to support students' network learning activities [21]. The physical environment is the precondition of web-based learning. The external condition directly determines whether web-based learning can occur [17]. Learners will then accept and use the network environment. The resource environment is the object and path of network learning, and its measurement scale is mainly based on information technology and learning resources. The popularization and application of new educational technologies, although enriching the organization and presentation of the resource environment, also increases learners' cognitive load and brings resistance to online learning [15]. As can be seen from Table 4-2, "learning atmosphere" is the main factor affecting students' learning. His average value is 3.66, the highest of all environmental scores. In addition, the score of "inappropriate online learning environment" on the degree of influence on learning is 3.20, and "because you cannot participate in various event competitions, your ability development is affected" is 3.23. Research results show that students generally believe online learning is less effective than school learning. The reasons are that the online learning environment is not suitable, the lack of practical opportunities, and the lack of a learning atmosphere are the most important factors. For this part of the correlation analysis, there is a significant but weakly positive correlation between network learning environment and learning self-efficacy($r= 0.16$, $P< 0.001$). According to common sense, the epidemic hurts students' learning environment, so there should be a negative correlation between the 'online learning environment' and the 'learning self-efficacy'. However, this situation was also reflected in the research of Lu Xiaoliang in 2020. Their research finds out that the "network influence is positive and negative, mainly positive"; from the perspective of the performance of the "post-00 s" college students' network mentality, the proportion of positive positives, similar to usual, uncertainties, and negative has decreased in turn, which are 42%, 32%, 21%, and 5%, respectively, indicating that the psychological state of college students is more positive [16].

Teachers can help students establish a good online learning environment during the teaching process by establishing clear communication channels, providing technical support, encouraging self-study, promoting online collaboration, and providing multimedia resources. It also depends on the continuous development of educational software.

Social Emotion Support Dimension

Social support theory posits that individuals with stronger social support networks are better equipped to handle the challenges of various environments. Social support improves adaptability for vulnerable and poorly adapted groups [5]. Social support can promote health by boosting self-esteem and self-regulation [3]. In psychology, "need" refers to an imbalance within an organism that manifests as a stable need for the body's internal environment or external living conditions and serves as a source of activity for the organism [26]. The need for emotional support drives students to seek it out. According to the results of this study, the statement "encouragement from friends enhances students' confidence in learning" received a score of 4.1, indicating that students strongly agree with the positive impact of social support on learning.

Furthermore, the correlation between this statement and self-efficacy was 0.243 ($r =0.243$, $P<0.001$), suggesting a significant positive correlation between an individual's emphasis on social support and their sense of self-efficacy in learning. A 2021 study by Cui Jia et al. also found that online social support significantly predicts students' self-efficacy in learning [14]. When it comes to "less communication with friends during the pandemic, and a lack of social support leading to lower learning confidence", most people think it does not conform to the actual situation. The question's score is 2.9, and most people choose not to conform. This shows that, first of all, the students are aware of the importance of the emotional values brought by their friends and are

minimizing the epidemic's impact on social communication. Secondly, social software is very developed. Students spend more time communicating online than usual. Some students are more suitable for communicating with friends online. The epidemic has not changed the way of communication, and it has even become a gospel for people who are "social terrorism".

Emotional support is an important educational strategy to enhance students' learning confidence. Although students' social-emotional support has not been affected, it is also worth noting that students can be given more emotional support in the following ways: First, to provide students with positive feedback, including praising their efforts and achievements, pointing out their strengths and progress, and encouraging them to continue their efforts. Second, provide students with adequate attention to their emotions and needs. Third, provide students with positive emotions, including friendship, care, support, and respect, to feel valued and recognized, enhancing their self-esteem and self-confidence. Fourth, use stimulating words to stimulate students' enthusiasm and motivation for learning. Fifth, encourage cooperation and mutual assistance between students, establish a friendly, supportive, and encouraging learning atmosphere, and make students feel mutual support and help to enhance their learning confidence.

VI. Conclusion

Summary

This study investigates the effects of self-study on English majors at Panzhihua University during the epidemic and proposes solutions. The study results revealed that the epidemic has indeed increased students' learning anxiety and weakened their sense of learning control, creating an unfavorable learning environment. Based on these findings, the author proposes suggestions derived from relevant literature in pedagogy and psychology. However, the survey also highlights notable aspects. Firstly, students' Interest in learning has remained the same despite the epidemic's impact. Secondly, there is no significant correlation between learning anxiety due to the epidemic and learning self-efficacy. Thirdly, students have sufficient social and emotional support. The author analyzes that these findings could be attributed to students' high Recognition of their major and the belief that they can realize their value through English practice.

Moreover, the absence of a correlation between learning anxiety and self-efficacy can be attributed to various factors. Firstly, when faced with a challenging environment, many individuals accept reality and adapt rather than complain, which can result in differing responses. Therefore, learning anxiety's influence on self-efficacy also depends on the student's personality traits, cognition, and other factors. Secondly, the questionnaire survey revealed that students' learning anxiety decreased, and their sense of learning self-efficacy rebounded as the epidemic situation improved. The presence of emotional support further supports the author's belief that students actively sought social and emotional support.

Overall, these findings contribute to our understanding of how the epidemic affects students' self-efficacy in learning, providing valuable insights for educators and policymakers in addressing the challenges students face during such circumstances.

Meaning of Research Results

After the COVID-19 pandemic, college education has significantly changed its educational approach, particularly at local undergraduate institutions that primarily rely on traditional teaching methods. The shift has been from traditional in-person education to a blended learning model that combines online and offline components. As a result, both universities' educational models and the teaching methods employed by university instructors must adapt and make necessary improvements. Likewise, students, as primary learners, have had to adjust to the evolving learning modes, learn how to effectively use new online learning tools, and adapt to novel

learning methods.

To enhance the quality of blended learning, the author highlights key aspects that should be prioritized in teaching, focusing on the perspective of students. Based on this study, several conclusions can be drawn. Firstly, assisting students in establishing clear and attainable learning goals is crucial. Secondly, empowering students to feel a sense of control over their learning behaviors is essential. These two aspects are key focal points for teachers in their teaching practices.

By emphasizing these aspects, teachers can better facilitate student learning in the blended learning environment and promote optimal educational outcomes.

Research Limitations

The research was conducted after the initial phase of the epidemic when students' psychological state had already undergone some changes compared to the earlier period of the outbreak. It is important to note that the research relied solely on subjective student perceptions obtained through a questionnaire survey to determine the epidemic's impact. While this approach provides valuable insights, it may only partially be objective. A more comprehensive research design could be employed to strengthen the validity of the conclusions. For instance, conducting a pre- and post-outbreak self-efficacy survey would allow for direct comparison and provide more convincing evidence of the epidemic's effects across different dimensions. Additionally, the questionnaire had a limited number of senior student respondents, which may have resulted in a less comprehensive understanding of the epidemic's effects on senior students. Therefore, the study results may need more explanatory power for this particular group of students.

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