

The Role of Self-Efficacy in Student Learning

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Abstract. In recent years, the country has vigorously developed in quality education, and they also increased attention to the students' psychological quality, which requires students to develop comprehensively based on the needs of human and social development. They also need to focus on developing students' self-potential. Psychological quality is the most important part of the overall structure of quality, and promoting the maturity of psychological quality is the focus of educational work. As an important factor in psychological quality, self-efficacy is also receiving much attention from students, teachers, parents and so on. So we need to explore the topic of how to develop the student's self-efficacy. By studying Bandura's self-efficacy theory, this paper seeks to address the issue of the role of self-efficacy in student learning, including factors that affect self-efficacy, current problems and shortcomings in our research, and how theoretical guidance can improve teachers' teaching level and students' listening efficiency. The findings of the study indicate that self-efficacy plays a very important role in students' learning. The study provides insights into teaching skills, which may contribute to future research and practice. Teachers can require students to continuously improve their self-efficacy while teachers adopt strategies and methods to enhance their self-efficacy.

Keywords: self-efficacy, academic education, emotional

1. Introduction

Self-efficacy is very important in students' learning today. Understanding the context of which role self-efficacy plays in students' studying is crucial as it lays the foundation for exploring its complexities and implications. Self-efficacy is an ability that every student can have while learning. The level of self-efficacy plays a significant role in the learning process. Recent theoretical developments suggest that students with higher self-efficacy find the learning process more relaxed [1]. The influencing factors of self-efficacy include performance achievement, alternative behavior, physiological information, and verbal persuasion [2]. Although we have many advances in self-efficacy, the factors that influence self-efficacy and the persistent issue of how self-efficacy plays an important role in students' studying life remain unresolved, which highlights an important need for further investigation. Nowadays, students are prone to a lack of confidence, which may lead to low efficiency and low interest in learning, resulting in poor academic performance. At the same time, most schools and teachers may focus more on academic performance and the lack of quality education, especially the impact of self-efficacy on academic performance. Nowadays, self-efficacy

is receiving increasing attention as a key factor for academic performance. So it is necessary to have a further study that integrates by primary school studies. This study aims to address the identified research gap by focusing on combining the theoretical foundation of self-efficacy in students' studying. We should analyze the theories on the impact of self-efficacy on the academic achievement of middle school students. After that, we need to identify the important factors of students' studying self-efficacy. In addition, we should find research gaps and future directions. Now we describe evidence. A comprehensive view of existing literature reveals a significant gap in understanding different countries' quality education. The primary objective of this research is to explore the role of self-efficacy in the learning of middle school students aged 12-15, guided by the central questions of how self-efficacy profoundly affects a person's persistence and selectivity towards activities. This study will explain the definition of self-efficacy and its relationship with academic achievement. After that, we can explore the factors that influence self-efficacy. The findings of this study are anticipated to contribute significantly to the importance of self-efficacy by offering new insights to improve students' self-efficacy, ultimately influencing the marks and studying habits of students. Using self-efficacy to help students solve learning and life problems. While this research focuses on the role of the student's self-efficacy, it is important to acknowledge certain limitations. For example, we don't explore in a certain environment how self-efficacy affects our students. Besides, we found it was many more differences between all the subjects.

2. The definition of self-efficacy

The expectation of personal efficacy determines whether measures will be taken to cope with behavior, how much effort we will put in when facing obstacles and things we dislike, and the duration of our efforts [3]. Previous research has shown that self-efficacy refers to people's subjective behavioral judgment of whether they can successfully carry out a certain achievement behavior, which is divided into outcome expectations and effect expectations. Outcome expectations refer to people's speculation of the outcome of their own behavior, and effect expectations refer to people's speculation of their own behavioral ability. Expectations tend to lean towards the confidence that one's own efforts can achieve a certain outcome, while efficacy expectations are the confidence in one's personal ability to implement behaviors that lead to good results, and the two are causal. Both outcome expectations and efficacy expectations demonstrate the confidence that an individual's abilities and behaviors generate in the outcome [4]. A high expected outcome implies believing that a certain behavior will produce the expected effect. But if the expectation of effectiveness is low, thinking that one cannot produce such actions can also lead to the failure of things. Only when both performance expectations and outcome expectations are high is it possible to take action and persevere. Self-efficacy, as a core concept of social cognitive theory, plays a decisive role in students' learning and development process. The core feature is situational dependence, with different performances in different fields, requiring domain-specific skill training. We believe that self-efficacy can be seen as an individual's perception of their ability to relate to the perceived difficulty of a task in a specific context. The perceived difficulty does not necessarily mean an estimation of ability. A person may consider a certain behavior extremely difficult in a specific context, but at the same time, they may also consider it not unfeasible [5]. What can be inferred is that self-efficacy is a subjective judgment, and even if the task is difficult, people with high self-efficacy tend to challenge rather than give up. The key to enhancing self-efficacy is to increase trust in the task rather than reducing its difficulty. It is impossible for an individual to maintain high self-efficacy in every field, as everyone has their own strengths and weaknesses. What we need is to use our own strengths to improve ourselves. The second point is dynamic plasticity, where high and low

self-efficacy domains may appear in the same individual. In other words, we can improve our proficiency and enhance our self-efficacy through continuous practice. However, conversely, continuous failure can also lead to a decrease in self-efficacy. The third point is behavior-driven, and cultivating self-efficacy requires intervention in specific areas. Highly efficient individuals may take on challenging tasks to boost their confidence, while those with low self-efficacy may choose to give up on challenges and actively avoid them to solve problems.

3. The role of self-efficacy in students' academic performance

Self-efficacy plays a very important role in most activities [6]. Self-efficacy determines a person's choice of activities. People with high self-efficacy can use effective learning strategies to achieve their goals, and they are more willing to actively think, ask questions, and solve problems. And the attribution method will be more inclined towards controllable factors. They also choose more difficult problems when challenged, and when faced with problems, they will not easily give up but choose to persevere. People with high self-efficacy tend to persist in activities for a longer period of time after encountering problems, and they will find ways to solve them. On the other hand, people with low self-efficacy are more likely to give up and give up faster, which affects the use of learning strategies. People with high self-efficacy are more inclined to use flexible methods, such as understanding memory and flexible time management, while those with low self-efficacy are more inclined to use rote memorization. It can also affect academic emotional management. People with high self-efficacy will turn anxiety into motivation and keep moving forward until they reach their goals, while those with low self-efficacy will fall into internal friction and have questions about themselves. At the same time, we can predict the academic performance and future development of two different groups of people with different self-efficacy, and the result is that people with high self-efficacy often achieve better grades.

In China, the important part of quality education is also be attached importance by many ways. At present, Quality Education not only includes general education, but also includes professional education. The quality education attracts many experiences, with a more comprehensive, systematic and profound way [7]. It is can be seen that quality education emphasizes all-round development instead of just reading books. In addition to learning the knowledge, the students can also receive education from morals and ethics. In recent years, China has published the policy called Double Reduction and comprehensive quality education revolution in order to encourage students to develop in a full scale. And we shouldn't only judge by students' grades. In this situation, we can enhance students' self-efficacy by reducing the pressure. In July 2021, the General Office of the Communist Party of China Central Community and the service Department of the state issued the opinions *Further Reducing the Homework and Extracurricular Training Burden of Students in Compulsory Education Stage*. As the symbol of the start of *Double Reduction*, it began to reduce excessive academic pressure and pressure from extracurricular activities. Besides, they want to cultivate students' interests and strengths [8]. Facing different subjects, the requirements of students' self-efficacy is different. If a subject has a clear rule, it is easier to show a trend of self-efficacy. If it has some loose rules and more subjective comments, the self-efficacy of short-term will be relatively small. Let's take a Chinese subject as an example, a survey has shown that the self-efficacy of middle school students in Chinese is often at a moderate level. Students with different grades do not show much difference in self-efficacy with Chinese academic performance, which includes self-assurance, susceptibility to infection, effort, and environmental perception [9]. On the other side, when we study some science subjects, be as physics and so on, students' self-efficacy is significantly related with task difficulty, personal quality, and the level of transfer of knowledge.

When the students are in the stage of receiving the knowledge with lower task difficulty, students will have high self-efficacy. While the students are in the stage of comprehensive activities that require a higher level of physics knowledge, they will have lower self-efficacy [10]. For subjects that required practice, students' self-efficacy should be determined by mastery level. When we face the science subject, we can break out the problems into several parts. This can be illustrated by when you achieve one of the steps, we can give ourselves affirmation after it. Setting a strategy for memorizing and organizing them carefully can help us remember the method for each question. For liberal arts, which are mainly focused on accumulation, we need to constantly recite, establish the connection with the study system, and start to form an interest in learning content. For all the subjects, we can use the method of role model motivation. We can select a good person who are similar to us in the beginning situation and they can achieve their goals in the end. We can learn from them and have a reference. The relationship between self-efficacy and academic achievement is an interactive and recursive process. Students with high self-efficacy believe they can learn more things and invest more learning resources. For example, they will finish their homework quickly and raise their hands to answer the question. Successful academic performance provides a strong sense of self-efficacy. And we found that the self-efficacy for the subjects has a subject-specific. For example, a student's self-efficacy in mathematics mainly affects the marks in maths instead of other subjects like Chinese or English.

4. Methods and materials

Now the target people whom we want to research is the junior high school students who are aged in 12-18 years old. The topic of the research will surround with the relationships of self-efficacy with students' studying which influence the academic performance, the strategy which junior school students will prefer, the learning motivation of students and how students control their emotions. And we will use Empirical research. In order to make sure the data about education is right, we will use English databases such as Web of Science, Education Resources Information Center, and Chinese database called CNKI. The researcher will choose the article that suit the topic. This paper is aimed at exploring the role of the student's self-efficacy in the lessons. So we chose the classical theory of Bandura's self-efficacy theory.

On the paper, we will obey the rules of the PRISMA. First, we search for keywords to find the outline of the paper. In the article, I will choose *the importance of self-efficacy*, *the factor influence self-efficacy* to search for the article. Second, we use NoteExpress to get rid off the duplicates. Third, I will try to refine the theme of each reference. On each of the references, I can learn about the main idea of each article. After that, we will filter the articles that match our topic of the paper for reading the paper twice. Finally, I will combine the sentences with some logical words.

5. Factors influencing self-efficacy

The theory suggests that different modes of influence can alter the expectations of coping behavior creation and enhancement of personal efficacy through the following ways [11].

There are many factors which influence self-efficacy in many ways. Verbal persuasion and advice are beneficial for improving self-efficacy, but the effect doesn't work for a long time; Influence individuals' judgment of their own abilities through encouragement and evaluation from others. For people with low self-efficacy, verbal persuasion can increase others' self-efficacy to a certain extent, but it has a limited effect. It is persuasion from external and social sources, with its own limitations. The conclusion drawn from the experiment is that the key factor of students' aspirations is their own

academic beliefs, and they will not pursue goals imposed on them. As parents, we can only monitor students' behavior in school through indirect supervision [12]. So students should set their own goals and gradually achieve them, study on their own rather than being urged by others. Self-psychological suggestion can be the main approach; it can be based on one's own experience. However, the efficacy established by verbal persuasion is prone to collapse when faced with strong negative experiences. Inappropriate persuasion, if beyond an individual's ability, can lead to increased anxiety and stress, result in a fear of failure and decrease in self-efficacy.

Emotional arousal at high levels and tense physiological states can affect a person's behavioral state; Research has shown that there is a negative correlation between self-efficacy and emotional disorders; For people with low self-efficacy, there is a positive correlation between emotional imbalance and emotional exhaustion levels, and a negative correlation with work efficiency [13]; Emotional arousal refers to the degree of emotional experience, which can be divided into low-level arousal and high-level arousal. High arousal negative emotions usually reduce self-efficacy, while high levels of positive emotions usually enhance self-efficacy. The negative impact of excessive arousal can lead to extreme anxiety, which can result in constantly thinking about the consequences of failure, only focusing on threats and difficulties, and ignoring one's own abilities and available resources. This has caused problems such as evasion and procrastination. Direct experience and the learner's personal experience of success or failure have the greatest impact on self-efficacy. Successful experiences can enhance a person's self-efficacy, while repeated failures can lower it. past successful experiences can help students strengthen their self-efficacy. That is to say, after mastering multiple successful experiences, it helps students better grasp victory and achieve success [14]. Moderate arousal of positivity can enhance focus and keep the body in an optimal response state, and successful experiences are an important source of improving self-efficacy. High arousal requires positive emotions to enhance self-efficacy. We need to constantly identify and guide our emotional states and transform them into positive efficacy information, which is the way to achieve success.

Direct experience. The learner's personal experience of success or failure has the greatest impact on self-efficacy. Successful experiences can improve a person's self-efficacy, while multiple failed experiences can reduce a person's self-efficacy. Compared to encouragement from others, self-efficacy is the most solid and stable when one's own skills and efforts overcome obstacles. After experiencing it firsthand, you realize what kind of effort and strategies are needed to achieve success and maximize your self-efficacy when facing difficulties. The experience of failure provides valuable feedback, helps adjust strategies and methods, and allows us to see the true difficulty of the task. After successfully overcoming it, we will have a sense of resilience and efficacy towards ourselves. But if there are too many failures and they lead to multiple failures in the early stages of the attempt, and cannot be properly attributed, self-efficacy will be reduced.

Alternative experience learners indirectly affect their self-efficacy by observing the success or failure of others.

We can reinforce through three methods. The first is direct reinforcement, which reinforces learning behavior through external factors. The second is substitutive intensity, which reinforces the corresponding need behavior or learning behavior orientation through certain role models.

The third type is self-reinforcement, where learners follow corresponding learning behaviors or learning behavior orientations. The third type is self-reinforcement, where learners evaluate and supervise themselves based on certain evaluation criteria to reinforce their corresponding learning behaviors.

Therefore, a strong sense of self-efficacy is widely regarded as an important component of job achievement, and individuals with a strong sense of self-efficacy are typically competent in their work.

6. Research gaps and future directions

Currently, the problem that still exists is that there may not be much emphasis on quality education and the importance of improving self-efficacy, and this phenomenon still exists in some small and medium-sized cities. Excellent teachers with low self-efficacy may form a "ability attribution" stereotype, thinking that effort is useless, and in this case, strengthening self-efficacy is not very useful for students. To improve a teacher's own quality, they need to have rich experience and be good at teaching students

The future direction can focus on the study of self-efficacy in interdisciplinary learning. As students, can we integrate the support of two or more disciplines and use simple and effective methods to solve problems? People have the ability to self reflect and self react, which enables them to control their own thoughts and behaviors. Interdisciplinary learning itself is a process in which learners actively construct knowledge networks and seek connections between different disciplines. Require students to integrate and process subject information on their own, while enhancing their confidence in integrating core concepts and theories from different subjects.

At the same time, we lack tools to measure students' self-efficacy, and we cannot judge the level of self-efficacy based on students' grades and listening efficiency.

7. The role of a teacher in class

As a teacher, the self-efficacy of teacher is to help students pay attention to the course. Arranging useful course, dealing with the accident situation. If teachers can solve the problem successfully, the self-efficacy of students will raise highly and students will pay more attention in class. As a teacher, we also can integrate efficacy training into class activities and create a supporting learning environment, because it can improve student's self-control abilities and learning abilities. On the other side, it may have some limitations, students will only rely on external factors to promote studying. They will try to ignore their autonomy. Teachers need to guide students engage in self reflection and self goal setting to help them improve self-efficacy by themselves.

The role which teacher plays in student's course is very important. For example, when a teacher is in class and sees some students not keeping up with the teacher's pace, we may try to break down tasks and set achievable short-term goals to reduce students' fear. Provide clear step-by-step guidance at the same time. We can help students arrange their plans, evaluate their learning process and learn high efficient study strategies. Under the same circumstances, this student may gain a higher sense of self-efficacy, which can improve efficiency in their work. For a student, appropriate guidance and encouragement may be more important than directly pointing out their mistakes. Basically, teachers are crucial to the success or failure of the education system [15]. A teacher determines whether students can have a good learning atmosphere. At the same time, the method of process feedback can be chosen, which means that teachers can first state their performance, such as their high level of focus and interaction with the teacher, which can improve learning efficiency. However, at the same time, suggestions should be made, such as drawing analogies and taking notes in a timely manner, which is conducive to their understanding again. At the same time, adopting the method of role model learning means that when doing exercises to consolidate or explain some problems that students can master, excellent students can be encouraged to raise their hands on stage

to demonstrate and answer questions. At the same time, when the teacher encourages them, they should attribute it to hard work rather than other uncontrollable factors such as luck or talent. Then, students can learn from the behavior of other excellent classmates and encourage them to speak on stage as well.

8. Conclusion

For students, a strong sense of self-efficacy is one of the important factors for academic success [16]. The self-efficacy of students plays an important role in learning. By analyzing the above theory, it can be concluded that among students, those with stronger self-efficacy usually adopt more flexible methods when facing problems, are more willing to deal with problems, and have higher learning efficiency. People with lower self-efficacy are often prone to feelings of self blame, tend to think negatively, use more rigid methods, and have lower motivation to learn. The learning efficiency will also be lower. And learning efficiency is also influenced by self-efficacy, requiring students to constantly set achievable goals and work hard. Teachers should treat students with low self-efficacy equally and continuously encourage those who encounter difficulties in learning. By guiding and encouraging those who encounter problems in learning to solve them independently, teachers can improve their self-efficacy. As a teacher, you can also establish some class rules to help students strengthen order and integrate the cultivation of self-efficacy into daily life.

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