

A Study on College Students' Academic Self-Efficacy Based on Diversified Teaching Mode

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Abstract: **Objective:** This study aims to enhance the academic self-efficacy of Chinese college students and improve their learning levels. **Methods:** Under a diversified teaching mode, the "College Student Academic Self-Efficacy Survey Questionnaire" was used to investigate the current status of academic self-efficacy among college students in the experimental group (those participating in the diversified teaching mode program) and the control group (those not participating in the diversified teaching mode program). **Conclusion:** (1) The academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy of college students are all slightly below the theoretical average. (2) In the experimental group (college students participating in the diversified teaching mode program), the scores for academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy are significantly higher than those in the control group (college students not participating in the diversified teaching mode program). (3) Based on the diversified teaching mode, in terms of learning behavior self-efficacy, college students with as League members of score significantly higher than those with as members of the masses, organizational members and prospective organizational members. (4) Based on the diversified teaching mode, in terms of academic self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning ability self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning behavior self-efficacy, the scores of college students with poor grade were significantly higher than those with medium grade, and the scores of college students with medium grade were significantly higher than those with good grade. **Recommendations:** (1)

Establish a student-centered teaching philosophy. (2) Promote the diversified integration of teaching content and form. (3) Strengthen the systematic construction of learning support system. (4) Pay attention to the individual differences of students and implement precise education strategies. (5) Guide students to form positive learning cognition and behavior habits.

Keywords: College Students; Diversified Teaching Mode; Academic Self-Efficacy

1. Introduction

In recent years, with the rapid development of higher education and the continuous expansion of college enrollment, Chinese college students have been facing increasing academic pressure. However, numerous studies show that contemporary college students often lack sufficient academic self-efficacy when confronted with complex and changing academic tasks. They frequently lack confidence in their learning process, tend to avoid difficulties, and show low enthusiasm for proactive learning. This can even lead to negative learning behaviors such as "over-competition" and "procrastination." Such a situation not only hinders the improvement of college students' academic performance but also impedes the cultivation of their comprehensive qualities and lifelong learning abilities [1-3].

Academic self-efficacy is a crucial psychological variable that influences college students' learning outcomes. It not only relates to students' attitudes and beliefs toward academic tasks but also directly affects their choice of learning strategies, the persistence of learning behaviors, and their ability to meet academic challenges. Research shows that students with higher academic self-efficacy are more proactive and persistent in their studies. When faced with difficulties, they can actively mobilize resources to solve problems, demonstrating higher academic achievement and psychological

adaptability. Therefore, enhancing college students' academic self-efficacy is of great significance for promoting their overall development [4-8].

Chinese scholar Liang Yusu defined academic self-efficacy in 2000 as the judgment and confidence an individual has about their ability to successfully complete academic tasks. This concept essentially reflects students' subjective assessment of their own abilities in academic activities, encompassing multiple dimensions such as learning ability self-efficacy and learning behavior self-efficacy. Academic self-efficacy is not only influenced by personal factors but also closely related to external conditions like educational environment and teaching methods [9].

In the context of current educational reform, diversified teaching mode have gradually become an important approach to improving teaching quality. This model emphasizes student-centeredness, focusing on the diversification and integration of teaching methods, content, learning resources, and evaluation mechanisms. It stresses practicality, participation, and individualization, breaking through the limitations of traditional "cramming" teaching methods, which helps to stimulate students' interest in learning and their intrinsic motivation. At the same time, diversified teaching mode emphasize the interactivity and openness of the learning process, providing a more inclusive learning support environment for students of different types [10-11].

Under the support of diversified teaching mode, college students exhibit a significant increase in academic self-efficacy. Students who receive diversified instruction show more positivity, confidence, and lower anxiety compared to those in traditional teaching settings. Moreover, diversified teaching mode can better accommodate individual differences among students, helping those with weaker academic foundations build confidence and improve their expectations for academic success, thereby enhancing overall learning outcomes [12-15].

2. Research Methods

2.1 Research Subjects

This study selected 440 college students from 10 classes at a university in Taiyuan, Shanxi Province as research subjects and conducted a

questionnaire survey. Among them, the control group (college students not participating in the diversified teaching mode program) consisted of 132 individuals, while the experimental group (college students participating in the diversified teaching mode program) included 308 individuals. The experimental group (college students participating in the diversified teaching mode program) is further categorized as follows: 58 males, 250 females; 82 from the general public, 112 members of the League, and 114 members or aspiring members of the Organization; 144 with good grade, 101 with medium grade, and 63 with poor grade.

2.2 Research Methods

This study used a questionnaire survey method. The "College Student Academic Self-Efficacy Questionnaire" was used to investigate the current state of academic self-efficacy among college students in the experimental group (those participating in the diversified teaching mode program) and the control group (those not participating in the diversified teaching mode program). It also provides a detailed analysis of the current status and characteristics of academic self-efficacy among college students involved in the reform program of the diversified teaching mode (the experimental group). This is to better understand the impact of the diversified teaching mode on college students' academic self-efficacy.

2.3 Research Tools

In this study, the measurement of academic self-efficacy used Liang Yusu's "College Student Academic Self-Efficacy Questionnaire," which was compiled in 2000. The questionnaire consists of 22 items, covering two dimensions: learning ability self-efficacy and learning behavior self-efficacy. It uses a 5-point scale with options set as "fully agree", "somewhat agree", "neutral", "somewhat disagree", and "fully disagree", assigned values of 5, 4, 3, 2, and 1, respectively. Higher scores indicate higher levels of self-efficacy. Liang Yusu's research shows that the Cronbach α coefficients for learning ability self-efficacy and learning behavior self-efficacy are 0.820 and 0.752, respectively, indicating high reliability of the questionnaire. A higher total score suggests stronger academic self-efficacy [9].

2.4 Data Processing

The statistical software SPSS23.0 was used to analyze the data.

3.1 Overall Situation of College Students' Academic Self-Efficacy

3 Results of the Study

Table 1. Overall Situation of College Students' Academic Self-Efficacy

	n	Min	Max	M	SD
Learning ability self-efficacy	440	1.45	2.82	2.08	0.26
Learning behavior self-efficacy	440	1.55	3.09	2.35	0.29
Academic self-efficacy	440	1.64	2.82	2.22	0.20

As can be seen from the data in Table 1, the college students' academic self-efficacy scale adopts the 5-point Likert scoring method, and the theoretical average value is 3. The average values of academic self-efficacy, learning ability self-efficacy and learning behavior self-efficacy are 2.22, 2.08 and 2.35 respectively, all lower

than the theoretical average value of 3.

3.2 Differences in Academic Self-Efficacy Among College Students Who Participate in or Do Not Participate in a Diversified Teaching Mode Program

Table 2. Comparison of Academic Self-Efficacy Among College Students Who Participate in or Did Not Participate in a Diversified Teaching Mode Program

	Control group (n = 132) M±SD	Experimental group (n = 308) M±SD	t	P
Learning ability self-efficacy	1.92±0.22	2.16±0.24	-9.826*	0.000
Learning behavior self-efficacy	2.15±0.26	2.43±0.26	-10.197*	0.000
Academic self-efficacy	2.03±0.14	2.29±0.18	-16.376*	0.000

Note: * indicates $P < 0.05$.

From the data in Table 2, it can be seen that there are significant differences between the control group (university students not participating in the diversified teaching mode program) and the experimental group (university students participating in the diversified teaching mode program) in terms of academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy. The mean values of academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy for the experimental group (university students

participating in the diversified teaching mode program) are significantly higher than those of the control group (university students not participating in the diversified teaching mode program).

3.3 Demographic Analysis of the Scores of College Students' Academic Self-Efficacy in the Program of Diversified Teaching Mode

3.3.1 Differences in Academic Self-Efficacy of College Students Participating in Diversified Teaching Mode Program on Political Identity

Table 3. Comparison of the Differences in Academic Self-Efficacy Among College Students Participating in the Diversified Teaching Mode Program on Political Identity

	Masses (n=82) M±SD	League members (n= 112) M±SD	Organizational members and Prospective organizational members (n = 114) M±SD	F	P	LSD
Learning ability self-efficacy	2.16±0.20	2.13±0.26	2.17±0.26	0.927	0.397	
Learning behavior self-efficacy	2.38±0.25	2.49±0.29	2.41±0.23	5.512*	0.004	2>1;2>3
Academic self-efficacy	2.27±0.16	2.31±0.19	2.29±0.18	1.323	0.268	

Note: 1 indicates the masses; 2 indicates the members of the League; 3 indicates the members and prospective members of the organizational members.

From the results in Table 3, it can be seen that there are significant differences in political identity among college students participating in the diversified teaching mode program in terms of learning behavior and self-efficacy. After further post-hoc tests (using the LSD method)

for multiple comparisons, it was found that college students as members of the League scored significantly higher than those with political identities as ordinary people, organizational members and associate organizational members.

3.3.2 Differences in Academic Performance Among College Students Participating in the Diversified Teaching Mode Program

Table 4. Comparison of Differences in Academic Self-Efficacy Among College Students Participating in the Diversified Teaching Mode Program in Terms of Academic Performance

	Good grade (n=144) M±SD	Medium grade (n=101) M±SD	Poor grade (n=63) M±SD	F	P	LSD
Learning ability self-efficacy	2.14±0.24	2.13±0.22	2.23±0.28	3.986*	0.020	3>1;3>2
Learning behavior self-efficacy	2.36±0.27	2.44±0.22	2.57±0.26	14.977*	0.000	3>2>1
Academic self-efficacy	2.25±0.19	2.28±0.13	2.40±0.17	17.255*	0.000	3>1;3>2

Note: 1 indicates good grade; 2 indicates medium grade; 3 indicates poor grade.

From the results in Table 4, we can see that there are significant differences in the academic performance of college students participating in the diversified teaching mode program in terms of academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy. Post hoc multiple comparisons using the LSD method further revealed that: Based on the diversified teaching mode, in terms of academic self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning ability self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning behavior self-efficacy, the scores of college students with poor grade were significantly higher than those with medium grade, and the scores of college students with medium grade were significantly higher than those with good grade [16].

4. Discussion

4.1 Analysis and Discussion of the Overall Situation of College Students' Academic Self-Efficacy

The data in Table 1 show that the average values of academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy among college students in this study are 2.22, 2.08, and 2.35, respectively, all slightly below the theoretical mean of 3. This indicates that the level of academic self-efficacy among college students is slightly lower than the theoretical average. The possible reasons for this conclusion may be the negative impact of social media addiction and smartphone dependence on college students' academic performance, leading to a lack of sense of efficacy and achievement in their studies, with more positive emotional experiences derived from video entertainment [17].

4.2 Analysis and Discussion of the Differences in Academic Self-Efficacy of College Students on Whether to Participate in Diversified Teaching Mode Program

The data in Table 2 show that the academic self-efficacy, learning ability self-efficacy, and learning behavior self-efficacy of the experimental group (university students participating in the diversified teaching mode program) are significantly higher than those of the control group (university students not participating in the diversified teaching mode program). The research results indicate that the diversified teaching mode has a significant positive effect on enhancing college students' academic self-efficacy. This model helps to improve college students' academic self-efficacy. The reason why the diversified teaching mode can significantly enhance college students' academic self-efficacy lies in its provision of a more personalized, interactive, timely feedback, and supportive learning environment. This effectively stimulates students' motivation to learn, enhances their autonomous learning abilities, and continuously reinforces their confidence in their learning capabilities through successful experiences and positive feedback. Therefore, universities should actively introduce and promote the diversified teaching mode in educational reforms to comprehensively improve college students' learning efficiency and overall quality [10,18,19].

4.3 Analysis and Discussion of the Differences in Demographic Variables of College Students' Academic Self-Efficacy in Participating in Diversified Teaching Mode Program

The data in Table 3 indicate that college students participating in the diversified teaching mode program show significant differences in political identity on the dimension of learning behavior self-efficacy. After further post-hoc tests (using the LSD method) for multiple comparisons, it

was found that college students with a political identity as members of the League scored significantly higher than those with identities as ordinary people, Organizational members, and Prospective organizational members. The impact of political identity on the difference in learning behavior self-efficacy among college students may be closely related to factors such as psychological identification, external expectations, organizational participation, and goal orientation. Members of the League, being in the stage of progressive youth development, exhibit more targeted and proactive learning behaviors, which is reflected in their higher self-efficacy. In contrast, organizational members or quasi-members have entered a stable development phase, while ordinary people may lack organizational identification and external incentives, leading to relatively lower learning behavior self-efficacy. Therefore, in promoting diversified teaching and learning capacity building, it is necessary to design more targeted incentive mechanisms and support systems that take into account the characteristics of students' political identities [20-21].

The data in Table 4 show that, based on the diversified teaching mode, in terms of academic self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning ability self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning behavior self-efficacy, the scores of college students with poor grade were significantly higher than those with medium grade, and the scores of college students with medium grade were significantly higher than those with good grade. The findings suggest that the relationship between academic performance and academic self-efficacy is not a linear or one-way trend in which better grade necessarily indicate stronger self-efficacy. Based on the contrary, under a diversified teaching mode, students with lower academic performance may exhibit higher levels of self-efficacy due to increased access to new learning opportunities and feedback mechanisms. In contrast, high-performing students may assess themselves more conservatively due to elevated personal standards and greater academic pressure. Additionally, the higher self-efficacy scores observed among some lower-performing students may also be influenced by cognitive

biases or self-defensive mechanisms [20-22]. These results underscore the importance of paying attention to students' subjective learning experiences and psychological perceptions in educational practice, rather than evaluating their abilities solely based on academic performance. They also point to the need to further explore how diversified teaching approaches can be adapted to support students at different performance levels more effectively.

5. Conclusion

(1) The academic self-efficacy, learning ability self-efficacy and learning behavior self-efficacy of college students are slightly lower than the theoretical average.

(2) The academic self-efficacy, learning ability self-efficacy and learning behavior self-efficacy of the experimental group (college students participating in the diversified teaching mode program) were significantly higher than those of the control group (college students not participating in the diversified teaching mode program).

(3) Based on the diversified teaching mode, in the dimension of self-efficacy of learning behavior, the score of college students as League members was significantly higher than that of college students as masses, Organizational members and Prospective organizational members.

(4) Based on the diversified teaching mode, in terms of academic self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning ability self-efficacy, the scores of college students with poor grade were significantly higher than those with medium and good grade; in terms of learning behavior self-efficacy, the scores of college students with poor grade were significantly higher than those with medium grade, and the scores of college students with medium grade were significantly higher than those with good grade.

6. Countermeasures and Suggestions

6.1 Build a Student-Centered Teaching Concept

Education should return to its core principle of "student-centeredness," focusing on students' emotional experiences, cognitive evaluations, and ability growth during the learning process.

Teaching activities are not only about transmitting knowledge but also about building students' beliefs and stimulating their sense of agency. Therefore, teachers should place greater emphasis on fostering students' participation and value, creating a supportive and developmental learning environment.

6.2 Promote the Diversified Integration of Teaching Content and Form

In teaching practice, it is essential to break away from the traditional single and closed teaching mode and shift towards diverse, practical, and collaborative teaching methods. Diversified teaching not only enriches learning paths but also provides students with more opportunities to achieve a sense of self-efficacy. By completing real tasks, engaging in interactive cooperative learning, and receiving dynamic feedback, students can be more effectively motivated to tap into their potential and confidence [3].

6.3 Systematization of Reinforcement Learning Support System Construction

Improving learning efficacy is not only dependent on classroom teaching, but also requires the construction of a perfect academic support system, including learning method guidance, psychological adjustment services, time management training, etc., to help students realize the transformation from "able to learn" to "know how to learn", from "wanting to learn" to "persisting in learning".

6.4 Pay Attention to Individual Differences of Students and Implement Precision Education Strategies

There are many differences among students, such as academic performance and political identity. In the process of enhancing their learning efficacy, it is important to tailor teaching methods and implement precise strategies. Educators should gain a deep understanding of the psychological states and behavioral characteristics of different types of students, adopt differentiated intervention and guidance strategies, and improve the effectiveness and relevance of educational work.

6.5 Guide Students to form Positive Learning Cognition and Behavior Habits

The enhancement of students' self-efficacy in learning ultimately hinges on their internal

transformation. Education should focus on cultivating students' correct self-awareness and attribution styles, helping them form positive learning beliefs, master scientific learning methods, and gradually establish good learning habits, thereby achieving a simultaneous improvement in intrinsic motivation and self-regulation abilities.

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