



Developing a Learning Model Based on Positive Psychology to Foster a Growth Mindset in College Students

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Received xx/xx/20xx

Revised xx/xx/20xx

Accepted xx/xx/20xx

Abstract

Background and Aim: This research aimed to evaluate the effectiveness of a learning model based on a positive psychology approach for enhancing a growth mindset among college students. The samples were first-year Accounting students at Jiangxi Environmental Engineering Vocational College.

Materials and Methods: In this study, the research instruments were the Growth Mindset Questionnaire with a Cronbach's alpha coefficient of 0.947 and a learning model based on a positive psychology approach for enhancing growth mindset. The learning model based on the positive psychology approach consisted of 14 lessons, with each lesson's activities based on three steps: 1) Lead-In, 2) Learning Activities, and 3) Conclusion. Each lesson lasted for 90 minutes, and the activity was conducted for a total of 6 weeks. Statistical methods such as mean, standard deviation (SD), one-way and two-way repeated ANOVA analysis were used to analyze the data. Based on voluntary student participation, 40 students became the sample of this study. These samples were randomized to the experimental group and the control group equally. The experimental group (n=20) received a learning model based on a positive psychology approach for enhancing a growth mindset, but the control group did not.

Results: The research results showed that the learning model based on positive psychology approach was effective in enhancing college students' growth mindset, and the experimental group continued to show improvement at one-month follow-up as follows: 1) college students' growth mindset after receiving the learning model and after the follow up period was significantly higher than before beginning the experiment at a level of .05 and 2) college students' growth mindset after receiving the learning model and after the follow up period was significantly higher than those in the control group at a level of .05.

Conclusion: It can be concluded that the learning model based on the positive psychology approach is effective in enhancing the growth mindset of college students.

Keywords: Growth Mindset; Learning Model Based on Positive Psychology Approach; Educational Intervention; College Students

Introduction

The landscape of higher education is continually evolving, presenting both challenges and opportunities for student development. Central to these dynamics is the concept of a growth mindset, defined by Dweck (2006) as the belief that intelligence and abilities can be developed through effort and perseverance. This mindset contrasts with a fixed mindset, where abilities are seen as static and unchangeable. A growth mindset influences how students perceive challenges, respond to setbacks, and engage with learning opportunities (Smith & Johnson, 2021). Students with a growth mindset tend to view challenges as opportunities for growth rather than threats to their intelligence, resulting in deeper engagement and improved academic performance (Brown & Green, 2019). Despite its recognized importance, fostering a growth mindset in higher education remains a significant challenge. Traditional educational models often prioritize academic performance and information retention, neglecting the psychological factors that influence learning (Taylor, 2020). This creates a critical gap in both research and practice, as many students enter higher education with fixed mindsets shaped by prior experiences and societal norms. To address this gap, it is essential to develop educational approaches that integrate psychological principles to foster a growth mindset, thereby better preparing students for the complexities of modern life and work.

The relevance of a growth mindset extends beyond academics, impacting students' resilience, adaptability, and overall well-being. College students face diverse challenges, including high academic





expectations, mental health concerns, and the pressure to adapt to a rapidly changing job market (Wilson, 2021). These stressors can hinder the development of a growth mindset, as they often lead students to avoid challenges and fear failure. Additionally, traditional teaching methods, which often adopt a one-size-fits-all approach, fail to account for individual differences in learning styles and mindsets (Davis & Clark, 2017). This underscores the need for an educational model that not only focuses on knowledge acquisition but also actively cultivates psychological resilience and adaptability. Positive psychology, a field focused on enhancing human strengths and well-being, offers a promising framework for addressing these challenges. Principles of positive psychology, such as fostering optimism, gratitude, and resilience, have been shown to enhance students' learning experiences and personal development (Seligman & Csikszentmihalyi, 2000; Williams, 2018). Despite its potential, the integration of positive psychology into higher education remains limited, leaving an untapped opportunity to create a more holistic and effective learning environment.

Thus, while the benefits of a growth mindset in improving student outcomes are well-documented, traditional educational models often neglect the psychological aspects essential for fostering this mindset. The lack of focus on emotional resilience, adaptability, and the perception of failure as an opportunity for learning creates a gap in the educational experience. This research aims to address this gap by evaluating a learning model based on positive psychology, an approach that emphasizes human strengths, well-being, and resilience (Seligman & Csikszentmihalyi, 2000). Positive psychology focuses on cultivating positive emotions, self-efficacy, resilience, and positive relationships—critical components in developing a growth mindset. While positive psychology has shown potential to enhance student learning and well-being, its integration into educational models, particularly in higher education, remains limited. Traditional models often prioritize academic performance over psychological factors, thereby missing the opportunity to foster a more holistic learning environment that promotes emotional and psychological growth. Through a preliminary literature review and semi-structured interviews with five experts in the fields of education and psychology, the researcher synthesized the findings to define the Chinese college students' growth mindset refers to the belief that abilities can grow through effort and learning. Individuals with a growth mindset seek challenges, embrace feedback, view failures as opportunities, and show persistence and resilience in their pursuit of mastery. Additionally, a Growth mindset primarily includes six components: belief in the malleability of abilities, persistence in the face of challenges, openness to feedback and learning from criticism, effort as a pathway to mastery, embracing challenges as opportunities for growth, and adaptability and flexibility in learning. The researcher developed a Growth Mindset Questionnaire for College Students based on this definition and its components. The researcher submitted the draft to three IOC experts for evaluation, scoring 1.0. Subsequently, a sample of 100 college students with similar backgrounds was tested, resulting in a Cronbach's alpha coefficient of 0.947 (n=100). Based on these initial test results, the questionnaire was refined, resulting in a six-version of 60 items covering the six components of Growth Mindset. The questionnaire has good qualities and reliability. The researcher used the questionnaire to evaluate college students' growth mindset level.

The purpose of this study was to evaluate the effect of a learning model based on a positive psychology approach for enhancing a growth mindset among college students. Based on growth mindset theory, positive psychology theory, social learning theory, and self-efficacy theory, and with expert advice, the researcher designed a learning model based on a positive psychology approach to enhance college students' growth mindset. This model includes 14 sessions, each 90 minutes long, over a period of 6 weeks. Each lesson's activities are based on three steps: 1) Lead-In; 2) Learning Activities; 3) Conclusion. The research instruments used in this study were semi-structured interview questionnaires, growth mindset questionnaires, and a learning model based on a positive psychology approach for enhancing growth mindset. Upon completion of the experiment, statistical methods such as mean, standard deviation (SD), and one-way and two-way repeated ANOVA analysis were used to analyze the data.

Objectives





To evaluate the effectiveness of the learning model based on the positive psychology approach on the growth mindset of college students:

1. To evaluate the impact of the learning model based on a positive psychology approach on the enhancement of growth mindset among experimental group students post-implementation.
2. To compare the effectiveness of the learning model based on a positive psychology approach in enhancing growth mindset between the experimental and control groups during and after the intervention period.

Literature Review

The concept of a growth mindset, popularized by Dweck (2006), emphasizes the belief that intelligence and abilities can be developed through effort, learning, and persistence. This idea draws on earlier psychological frameworks, such as Bandura's (1986) social learning theory, which highlights the importance of self-efficacy, and Vygotsky's (1978) sociocultural theory, which underscores the role of social interaction in cognitive development. Research has established that students with a growth mindset demonstrate higher motivation, resilience, and academic performance (Blackwell, Trzesniewski, & Dweck, 2007). Additionally, interventions designed to foster a growth mindset, such as teaching students about neuroplasticity, have proven effective in improving academic outcomes, particularly for at-risk students (Paunesku et al., 2015). However, existing studies often focus on short-term academic achievements and provide limited insights into the long-term impact of growth mindset interventions on personal and professional development. Moreover, there is a lack of integration between growth mindset principles and broader psychological frameworks, such as positive psychology, which highlights a critical gap in the current literature.

Positive psychology, as a discipline, focuses on human strengths, well-being, and optimal functioning. Founded by Seligman and Csikszentmihalyi (2000), it aims to complement traditional psychology's emphasis on pathology by promoting resilience, positive emotions, and personal growth. Key frameworks, such as Seligman's PERMA model (2011), identify five core elements of well-being: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Similarly, Fredrickson's (2001) broaden-and-build theory emphasizes how positive emotions enhance resilience and foster personal resources. Research has shown that applying positive psychology principles in education significantly improves students' emotional well-being, engagement, and overall academic outcomes (Rusk & Waters, 2013). Despite these promising findings, its application in higher education remains limited, as traditional educational models often prioritize academic achievement over psychological well-being. Addressing this gap, this research proposes integrating positive psychology principles with growth mindset interventions to create a holistic framework for fostering both academic success and psychological resilience.

While both frameworks have individually shown benefits, their combined application remains underexplored. The integration of growth mindset and positive psychology offers a promising avenue for holistic student development, yet empirical validation of such models is limited. This study seeks to bridge this gap by assessing a learning model that systematically integrates these theories to enhance student development.

Conceptual Framework

This study is based on growth mindset theory, positive psychology principles, Social Learning Theory, and Self-Efficacy Theory. The independent variable is the Learning Model Based on Positive Psychology Approach, while the dependent variable is the Growth Mindset.



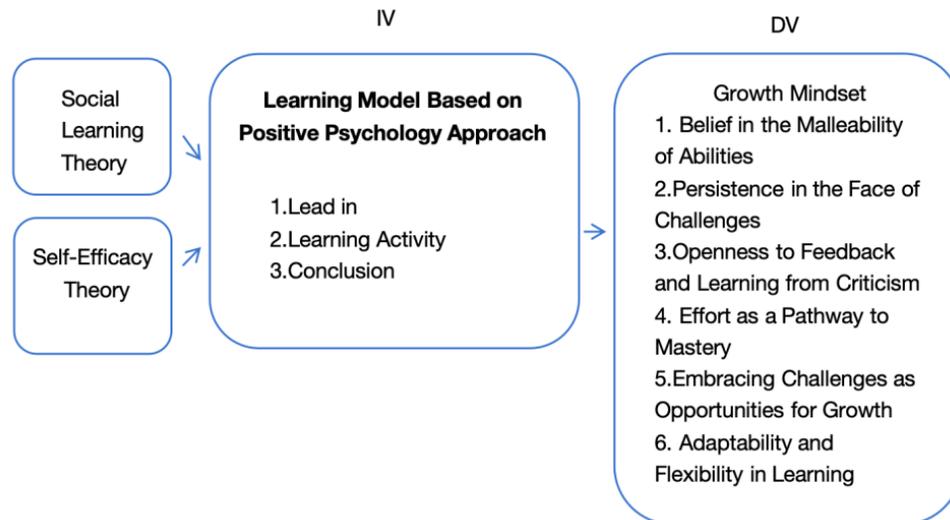


Figure 1 Research conceptual framework
Note: Constructed by the researcher

Methodology

The researcher based on the results of previous studies, 1) Growth mindset questionnaire for college students; 2) A learning model based on a positive psychology approach. The researcher employed the learning model based on a positive psychology approach with a sample group, randomly assigned into experimental and control groups, using a randomized control-group pretest-posttest design. The research design consists of four steps:

Step 1: Pre-test period

The researcher utilized a customized Growth Mindset questionnaire for college students as the assessment tool. Through random sampling, this study conducted a pre-survey on 261 undergraduate students from the Accounting program of Jiangxi Environmental Engineering Vocational College. Subsequently, participants' scores were ranked, and the lowest-scoring 40 students were selected as the study sample, evenly divided into the experimental group (n=20) and the control group, ensuring comparable and averaged questionnaire scores between the two groups have similar and averaged questionnaire scores.

Step 2: Experimental Period

During the instructional phase, teaching activities followed a prescribed timetable using the active learning approach. This phase lasted for 6 weeks, comprising 14 sessions, with each session lasting 90 minutes. The control group did not receive any specific instructional intervention.

Step 3: Post-test Period

Following the conclusion of experimental activities for the experimental group, researchers administered the "Growth Mindset Questionnaire for College Students" again to both the experimental and control groups, assessing their levels of growth mindset.

Step 4: Follow-up Period

Approximately one month after the conclusion of the learning model based on a positive psychology approach instructional activities, researchers conducted a follow-up survey with students from both the experimental and control groups. Subsequently, follow-up data were collected and analyzed, providing additional insights into the long-term effects of the experimental intervention.

Results

1. Results of data analysis for the experimental group

This study employed one-way repeated measures ANOVA to analyze the changes in growth mindset among college students in the experimental group at three time points: before the experiment, after the experiment, and during follow-up.



Table 1 Evaluation scores of the experimental group before, after the experiment, and follow-up (n = 20).

Experimental stage	M	SD	Evaluate
Pre-test	2.82	0.041	Moderately low
Post-test	3.21	0.033	Moderately high
Follow-up	3.16	0.012	Moderately high

According to the results of the variance analysis shown in Table 1, it can be observed that the growth mindset academic performance of college students in the experimental group has changed significantly after the pretest. Before the test, the growth mindset level of the experimental group (M=2.821, SD=0.041) was at a medium-low level. However, after the test, the score increased significantly (M=3.21, SD=0.033), reaching a moderately high level. Subsequent follow-up survey shows that the score remains stable (M=3.16, SD=0.012), and it is still at a moderately high level. This shows that the experiment has a positive and lasting impact on the growth mindset of college students.

Table 2 ANOVA results of each component score of the experimental group students at different time points (before and after the experiment, follow-up) (n = 20).

Experimental stage	M	SD	Evaluate
Belief in the Malleability of Abilities			
Pre-test	1.84	0.331	Low
Post-test	3.45	0.325	Moderately high
Follow-up	3.22	0.158	Moderately high
Persistence in the face of challenges			
Pre-test	1.99	0.224	Moderately low
Post-test	3.46	0.121	Moderately high
Follow-up	3.51	0.261	Moderately high
Openness to feedback and learning from criticism			
Pre-test	2.98	0.135	Moderately low
Post-test	3.59	0.212	Moderately high
Follow-up	3.64	0.257	Moderately high
Effort as a Pathway to Mastery			
Pre-test	1.57	0.223	Low
Post-test	3.28	0.104	Moderately high
Follow-up	3.36	0.225	Moderately high
Embracing Challenges as Opportunities for Growth			
Pre-test	2.89	0.314	Moderately low
Post-test	3.45	0.339	Moderately high
Follow-up	3.28	0.248	Moderately high
Adaptability and flexibility in learning			
Pre-test	2.96	0.157	Moderately low
Post-test	3.22	0.249	Moderately high
Follow-up	3.41	0.323	Moderately high

According to Table 2, we observe significant improvements in students' scores on various growth mindset components before and after the experiment. Before the experiment, students in the experimental group exhibited low levels of Belief in the Malleability of Abilities (pre-M=1.84, SD=0.331) and moderately low levels of Persistence in the face of challenges (pre-M=1.99, SD=0.224). After the experiment, scores for Belief in the Malleability of Abilities increased to moderately high levels (post M=3.45, SD=0.325), and Persistence in the face of challenges also reached moderately high levels (post M=3.46, SD=0.121). Additionally, scores for Openness to feedback and learning from criticism, Effort as a Pathway to Mastery, Embracing Challenges as Opportunities for Growth, and Adaptability and flexibility in learning, initially at moderate to low levels, significantly improved to moderate to high levels post-experiment. These results indicate that the experiment effectively enhanced students' belief in the malleability of abilities, persistence in the face of challenges, openness to feedback and learning from





criticism, effort as a pathway to mastery, embracing challenges as opportunities for growth, adaptability, and flexibility in learning.

Table 3 Descriptive Statistics and ANOVA Results for Pre-test, Post-test, and Follow-up Stages of Different Growth Mindset Components

Dimension	Experimental stage	M	SD	Variance ratio	P value
Belief in the Malleability of Abilities	Pre-test	1.84	0.331	58.366***	0.001
	Post-test	3.45	0.325		
	Follow-up	3.22	0.158		
	Total value	3.48	0.125		
Persistence in the face of challenges	Pre-test	1.99	0.224	49.261***	0.001
	Post-test	3.46	0.121		
	Follow-up	3.51	0.261		
	Total value	2.459	0.314		
Openness to feedback and learning from criticism	Pre-test	2.98	0.135	51.345***	0.001
	Post-test	3.59	0.212		
	Follow-up	3.64	0.257		
	Total value	2.845	0.227		
Effort as a pathway to mastery	Pre-test	1.57	0.223	46.228***	0.001
	Post-test	3.28	0.104		
	Follow-up	3.36	0.225		
	Total value	2.471	0.320		
Embracing challenges as opportunities for growth	Pre-test	2.89	0.314	51.212***	0.001
	Post-test	3.45	0.339		
	Follow-up	3.28	0.248		
	Total value	2.258	0.311		
Adaptability and flexibility in learning	Pre-test	2.96	0.157	54.128***	0.001
	Post-test	3.22	0.249		
	Follow-up	3.41	0.323		
	Total value	3.114	0.229		

***p < 0.001

This study presents the results of repeated measurement variance analysis of six variables: belief in the malleability of abilities, persistence in the face of challenges, openness to feedback and learning from criticism, effort as a pathway to mastery, embracing challenges as opportunities for growth, and adaptability and flexibility in learning. From pre-test to post-test and Follow-up, all variables have been significantly improved, P value < 0.001. Growth mindset after-the-fact analysis confirmed that all paired comparisons among pre-test, post-test, and Follow-up stages were statistically significant (p < 0.001), indicating that post-test and Follow-up stages were significantly improved compared with the pre-test, and the post-test stage was higher than the Follow-up stage. Specifically, the post-test and Follow-up scores are significantly higher than the pre-test scores, and the Follow-up scores are generally maintained at the post-test level. These findings show that the intervention is effective in improving the level of growth mindset, and the lasting effect is observed with the passage of time.

2. Results of data analysis for the experimental group and the control group

Table 4 Growth Mindset score of 40 college students, involving the experimental group and the control group, before and after the experiment, and follow-up results (n = 40).

Experimental stage	Group	M	Sd	Evaluate
Belief in the Malleability of Abilities				
Pre-test	Experimental group	1.84	0.331	Low





Experimental stage	Group	M	Sd	Evaluate
Post-test	Control group	1.42	0.221	Low
	Experimental group	3.45	0.325	Moderately high
Follow-up	Control group	1.49	0.228	Low
	Experimental group	3.22	0.158	Moderately high
	Control group	1.57	0.364	Low
Persistence in the face of challenges				
Pre-test	Experimental group	1.99	0.224	Moderately low
	Control group	1.36	0.125	Low
Post-test	Experimental group	3.46	0.121	Moderately high
	Control group	2.27	0.334	Moderately low
Follow-up	Experimental group	3.31	0.261	Moderately high
	Control group	2.12	0.153	Moderately low
Openness to feedback and learning from criticism				
Pre-test	Experimental group	2.98	0.135	Moderately low
	Control group	1.66	0.224	Low
Post-test	Experimental group	3.59	0.212	Moderately high
	Control group	2.23	0.125	Moderately low
Follow-up	Experimental group	3.64	0.257	Moderately high
	Control group	2.25	0.139	Moderately low
Effort as a pathway to mastery				
Pre-test	Experimental group	1.57	0.223	Low
	Control group	1.87	0.144	Low
Post-test	Experimental group	3.28	0.104	Moderately high
	Control group	1.93	0.125	Low
Follow-up	Experimental group	3.36	0.225	Moderately high
	Control group	1.87	0.226	Low
Embracing challenges as opportunities for growth				
Pre-test	Experimental group	2.89	0.314	Moderately low
	Control group	1.52	0.315	Low
Post-test	Experimental group	3.45	0.339	Moderately high
	Control group	1.94	0.224	Low
Follow-up	Experimental group	3.28	0.248	Moderately high
	Control group	1.85	0.121	Low
Adaptability and flexibility in learning				
Pre-test	Experimental group	2.96	0.157	Moderately low
	Control group	1.98	0.121	Low
Post-test	Experimental group	3.22	0.249	Moderately high
	Control group	2.25	0.149	Moderately low
Follow-up	Experimental group	3.41	0.323	Moderately high
	Control group	2.12	0.105	Moderately low

Table 4 presents the pre-test, post-test, and follow-up results of the experimental and control groups on belief in the malleability of abilities, persistence in the face of challenges, openness to feedback and learning from criticism, effort as a pathway to mastery, embracing challenges as opportunities for growth, and adaptability and flexibility in learning. The data indicate that in the experimental group, after the experiment and follow-up, scores in belief in the malleability of abilities, persistence in the face of challenges, openness to feedback and learning from criticism, effort as a pathway to mastery, embracing challenges as opportunities for growth, adaptability and flexibility in learning significantly improved, demonstrating moderate high levels of enhancement. In contrast, changes in these aspects in the control group were relatively minor, remaining at low to moderate levels. These findings highlight the effectiveness of the improved learning model based on a positive psychology approach in enhancing participants' growth mindset.



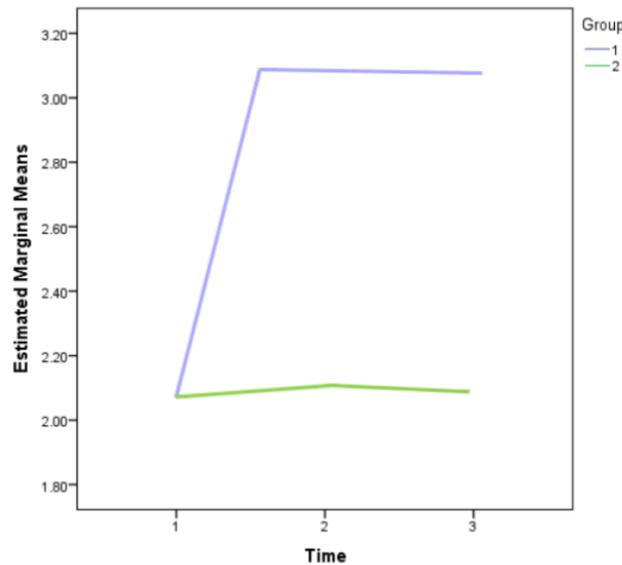


Figure 2 Interaction Figure of Time and Group
Note: Constructed by the researcher

Group 1 = experimental group
Group 2 = control group
Time 1 = Pre-test
Time 2 = Post-test
Time 3 = Follow-up

Figure 1 provides a more visual representation of the interaction effects of time and treatment on the study variables. The horizontal axis represents time, and the vertical axis represents the study variables. "1" denotes the experimental group, and "2" denotes the control group. From the figure, it is evident that measurements in the treatment group post-experiment and at follow-up are significantly higher than those in the control group, indicating that over time, the positive impact of the learning model based on a positive psychology approach on growth mindset gradually becomes apparent and is sustained.

Discussion

1. Results from research objective 1 found that the growth mindset of college students in the experimental group who received the positive psychology-based learning model intervention improved from the pre-test to the post-test and sustained this improvement in the follow-up period. This may be attributed to the integration of positive psychology principles, including positive emotions, self-efficacy, resilience, and positive relationships.

Key activities, such as gratitude exercises, celebrating achievements, and setting positive intentions, fostered positive emotions, enhancing motivation and engagement. Positive emotions, as suggested by Seligman (2011), boost resilience and well-being, which are critical for a growth mindset. Positive psychology interventions enhance emotional well-being and engagement.

The growth mindset improvement was also linked to enhanced self-efficacy. Goal-setting, progress reflection, and celebrating small achievements built student confidence. Role-playing and simulations helped students build confidence in overcoming challenges.

The model's emphasis on resilience played a key role in sustaining the intervention's effects. Reflective exercises, such as journaling, taught students to view setbacks as opportunities for growth, reinforcing a long-term growth mindset.

2. Results from research objective 2 found that the growth mindset of college students in the experimental group who received the intervention of the learning model based on the positive psychology approach significantly improved than the control group during pre-test, post-test, and follow-up period.

One of the reasons for the experimental group's significantly higher scores compared to the control group was the introduction of interactive learning activities. Activities such as role-playing and scenario



simulations provided practical opportunities for students to apply growth mindset strategies. These experiential learning activities allowed students to confront real-life challenges and practice their responses in a supportive environment, thereby enhancing their adaptability and resilience.

Additionally, reflective exercises in the learning model helped deepen students' understanding of growth mindset concepts. Through these exercises, students were prompted to evaluate their learning processes, identify successful strategies, and recognize areas for improvement. Reflective capacity is crucial for turning learning into long-term behavioral change.

The improvement seen in the experimental group was also influenced by the emphasis on fostering positive relationships. Based on Vygotsky's (1978) social constructivism theory, this study provided students with a platform for peer learning and support through group discussions and collaborative tasks. This supportive peer interaction not only enhanced students' cognitive development but also promoted their openness to feedback and cooperative problem-solving, both of which are critical for developing a growth mindset.

In contrast, the control group showed no significant improvement, highlighting the limitations of traditional teaching methods that neglect psychological resilience and adaptability. The experimental group benefited from a positive psychology approach, which emphasized learning from failures and adapting to challenges.

Sustained gains in the experimental group were attributed to repeated practice and positive reinforcement, reinforcing their belief in the malleability of abilities. Growth mindset interventions are most effective when they encourage active practice. The control group, lacking such interventions, showed no significant improvement, emphasizing the importance of sustained, structured interventions.

In conclusion, the positive psychology-based learning model effectively promoted a growth mindset by integrating positive emotions, self-efficacy, resilience, and positive relationships. These interventions led to significant short-term cognitive and attitudinal changes, with lasting effects on students' approaches to challenges and learning. Future research should explore the impact of cultural contexts and determine the optimal duration and intensity of such interventions.

Conclusion

The primary objective of this study was to evaluate the effectiveness of the learning model based on the positive psychology approach in enhancing college students' growth mindset. The results from pre-tests, post-tests, and follow-up tests using the Growth Mindset Questionnaire revealed several key findings. Initially, pre-test results indicated that students' growth mindset levels were generally low, with particularly poor performance in Belief in the Malleability of Abilities, Persistence in the face of challenges, and Effort as a Pathway to Mastery. This highlighted a critical need for interventions aimed at enhancing these areas. Following the implementation of the learning model based on the positive psychology approach, the experimental group demonstrated significant improvements across all growth mindset dimensions. Notably, Belief in the Malleability of Abilities and Effort as a Pathway to Mastery showed marked enhancement, progressing from low to moderate levels. These improvements were sustained in follow-up tests, suggesting a lasting positive impact of the learning model based on the positive psychology approach on students' growth mindset. The data further underscored that the experimental group's growth mindset level significantly surpassed that of the control group, both immediately after the intervention and in subsequent assessments. This finding confirms the efficacy of the learning model based on the positive psychology approach in fostering a growth mindset among college students and highlights its potential for broader application in educational settings.

In conclusion, the learning model based on the positive psychology approach not only effectively enhances college students' growth mindset but also ensures the persistence of these improvements over time. These findings offer practical guidance for educators, indicating that integrating positive psychology into teaching practices can help create a learning environment conducive to students' potential development and mindset transformation.

Suggestions

1. Suggestions for putting research results to good use

Results from the research objective found that the learning model based on the positive psychology approach has a positive effect on college students' growth mindset.

Therefore, relevant agencies should take the following actions:





Implement the learning model based on the positive psychology approach. The learning model developed in this study has demonstrated effectiveness in enhancing students' growth mindset. Educational institutions should consider adopting this model and adapting its content to suit their specific student populations. Training programs for educators could be introduced to familiarize them with positive psychology principles and equip them with the skills to implement the model effectively. Additionally, ongoing support and resources should be provided to facilitate the incorporation of these practices into regular curricula.

Establish Ongoing Feedback and Monitoring Mechanisms. To reinforce students' growth mindset over time, educational institutions should implement continuous feedback mechanisms. Regular assessments, one-on-one counseling, and peer support systems can provide students with timely guidance and reinforce their commitment to a growth-oriented approach. Longitudinal monitoring of students' progress can also offer valuable data to further refine and enhance the learning model.

2. Suggestions for future research

Strengthen Longitudinal Studies to Assess Sustainability. To better understand the long-term impact of the learning model, future studies should employ extended follow-up periods to track changes in students' growth mindset over time. Such research could provide insights into the factors that sustain mindset development and inform strategies for maintaining positive outcomes in the long run. It is also essential to examine the role of external influences, such as family support and social environment, in shaping the durability of the intervention's effects.

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