

Innovative Behavior and Entrepreneurial Competence of Chinese College Students

Yulu Liu^{1,2,*}, Erlinda D. Serrano¹

¹ Graduate School, Adamson University, CO 1000, Philippines

² Hubei Enshi College, Hubei, China

* Corresponding author: Yulu Liu (Email: 282069463@qq.com)

Abstract: The research focuses on innovative behavior and entrepreneurial capabilities in the context of literature awareness, creativity, novel approaches to problems, and adaptability in learning, laying the foundation for enhancing students' levels of innovation and entrepreneurship. These areas deepen the cultivation of students' innovative behavior and entrepreneurial abilities, improving the efficiency of their career development. The study has positively impacted the employment performance of students in relevant universities in Hubei Province, China, providing teaching support to help students develop innovative behavior and entrepreneurial skills. A random sample of 313 students was selected for the study, and data were analyzed through descriptive correlation design using the social science statistical software SPSS. The results indicated that the respondents were predominantly aged between 20-30 years (97.8%), with a majority being female (63.3%), and mainly sophomore students (44.1%). The scores for literature awareness (3.32), creativity (3.24), novel approaches to problems (3.24), adaptability in learning (3.21), model construction (3.22), industry component trends (3.26), profitability analysis (3.24), and experimentation with new ideas (3.25) were observed. The research concludes that elevating the levels of innovation and entrepreneurial capabilities among university students effectively promotes the enhancement of their innovative employment skills, including literature awareness, creativity, novel approaches to problems, and adaptability in learning. Ultimately, this strengthens the overall employability performance of university students. To facilitate the development of students' participation in class, innovative thinking, and entrepreneurial abilities, teachers need to implement relevant measures. For instance, adopting diverse assessment methods, integrating interdisciplinary comprehensive cultivation in teaching, and creating an environment encouraging expression and challenge can contribute to nurturing students' innovation and entrepreneurial skills, broadening their perspectives, and shaping them into confident and adaptable thinkers.

Keywords: Innovative Behavior; Entrepreneurial Capabilities; Chinese College Students.

1. Introduction

In today's highly competitive global economic environment, innovation and entrepreneurial capabilities are considered core competencies that university students should possess. China's higher education system is increasingly focusing on nurturing students' innovation and entrepreneurship abilities, reflecting a common global concern on this topic. This article will explore global research advancements, China's current efforts in this regard, and the importance of researching the integration of innovation and entrepreneurship capabilities among university students.

There were some issues of excessive emphasis on exam-oriented education in the current society, leading to a situation where college students focused more on cultivating exam-related skills while relatively neglecting the development of innovative thinking and practical entrepreneurial abilities. The excessive importance placed by both schools and society on exam scores might have inclined students towards pursuing traditional academic knowledge, with insufficient emphasis on fostering innovation. Some college students might have been influenced by the pressure of securing employment, preferring conventional employment over entrepreneurship. In a social context where stable employment is widely emphasized, some students may have perceived entrepreneurship as risky, opting for more traditional career paths, potentially restricting the development of their innovation and entrepreneurial capabilities. Certain societal norms and family expectations

could also have had a negative impact on the inclination of college students towards innovation and entrepreneurship. Traditional beliefs that education is primarily aimed at securing a stable job, rather than entrepreneurial pursuits, might have led to a certain level of societal and familial resistance towards innovation and entrepreneurship. Through analyzing these societal challenges, we gain a deeper understanding of the current status of innovative behavior and entrepreneurial competence among Chinese college students, providing a more profound and practically meaningful background for subsequent research.

Globally, there has been significant progress in researching the integration of innovation and entrepreneurship capabilities. Many universities in various countries have incorporated innovation and entrepreneurship into their education systems by offering relevant courses and programs. This reflects the recognition of innovation and entrepreneurship as critical 21st-century skills that can promote sustainable socioeconomic development. For example, top universities like Stanford University and the Massachusetts Institute of Technology (MIT) in the United States have nurtured numerous entrepreneurs and tech leaders through innovative education, driving progress in technological innovation. European countries are also actively promoting entrepreneurship education to encourage students to start their own ventures.

Furthermore, international research institutions and organizations, such as the International Innovation Association and the World Entrepreneurship Organization,

play important roles in advancing research and facilitating knowledge exchange on innovation and entrepreneurship capabilities. These organizations gather expertise and experiences from around the world, providing students with more learning opportunities and resources.

China, as one of the world's largest developing countries, has continuously exerted efforts to integrate innovation and entrepreneurship capabilities among university students. Chinese higher education institutions increasingly recognize the importance of nurturing students' innovation and entrepreneurship abilities for the country's innovation-driven development strategy. Therefore, Chinese universities have actively implemented a series of measures to promote the integration of these capabilities.

Chinese universities widely offer courses and practical projects related to innovation and entrepreneurship, providing students with opportunities to engage in innovative activities. For instance, some universities have established entrepreneurship incubators to support students in founding startups. Additionally, the Chinese government has introduced various policies to incentivize innovation and entrepreneurship, providing financial support and legal protection to university students.

Chinese universities engage in international cooperation in innovation and entrepreneurship education, attracting international educational resources and professional talents. This helps introduce international best practices into China, elevating the level of education in cultivating students' innovation and entrepreneurship capabilities. Chinese students actively participate in international innovation and entrepreneurship competitions, enhancing their competitiveness on the global stage.

Regarding the value of researching the integration of innovation and entrepreneurship capabilities among university students, this topic holds multiple significances. Firstly, cultivating students with innovation and entrepreneurship capabilities contributes to solving societal and economic development challenges, promoting the construction of an innovative nation. Secondly, research can help universities better understand how to effectively integrate innovation and entrepreneurship education, thus improving the quality of education. Most importantly, the integration of innovation and entrepreneurship capabilities will produce more competitive graduates who possess not only knowledge and skills but also creativity and innovative thinking, enabling them to succeed in their future careers.

Globally, there has been continuous progress in researching the integration of innovation and entrepreneurship capabilities among university students. China, as a rapidly emerging technological and innovation powerhouse, is actively contributing to these efforts. Research in this field not only offers valuable insights for higher education but also promotes sustainable socioeconomic development and the cultivation of more competitive graduates, addressing the demands and challenges of modern society. Moreover, this research facilitates international cooperation and knowledge sharing, driving advancements in global innovation and entrepreneurship education.

2. Statement of the Problem

This study aims to assess the relationship between innovative behavior and entrepreneurial competence of college students at Hubei Enshi College.

Specifically, this study will answer the following

questions:

1. What is the profile of the respondents in terms of:
 - 1.1 Age
 - 1.2 Gender
 - 1.3 Year Level
2. What is the assessment of the college students as regards their innovative behavior in terms of:
 - 2.1 literature awareness
 - 2.2 creativity
 - 2.3 novel approaches to problems
 - 2.4 adaptability in learning
3. Is there a significant difference in the assessment among the college students as regards their innovative behavior when their profile is taken as test factor?
4. What is the assessment of the college students as regards their entrepreneurial competence in terms of:
 - 4.1 Model construction
 - 4.2 Industry component trends
 - 4.3 Profitability Analysis
 - 4.4 Experimentation with new ideas
5. Is there a significant difference in the assessment among the college students as regards their entrepreneurial competence when their profile is taken as a test factor?
6. Is there a significant relationship between innovative behavior and entrepreneurial competence?
7. Based on the findings of the study, what are innovative measures can be incorporated to craft an entrepreneurial competence program?

3. Scope and Delimitation of the Study

This study focuses on the innovative behavior and entrepreneurial competence of college students, with the ultimate goal of enhancing their innovation and entrepreneurial capabilities. The participants in this research will be undergraduate students currently engaged in internships or practicums at Hubei Enshi College. The study aims to identify the participants' age, gender, and academic year levels. Subsequently, an assessment of innovative capabilities will be conducted, encompassing aspects such as literature awareness, creativity, innovative problem-solving approaches, learning adaptability, industry trends in model construction, and profitability analysis. Novel ideas will be tested through experimentation, and significant differences will be tested based on participant profiles. The research is scheduled to span six months.

Data collection will be carried out through a questionnaire survey administered via survey websites and the SPSS software. The questionnaire will be modified to align with the sub-variables stated in the research questions. Validity testing will be conducted by five experts, and reliability testing will be performed using Cronbach's alpha. The selection of participants for this study will be based on their current status, and the content mentioned above will be reformulated and rewritten to provide a more scholarly presentation.

4. Hypotheses

H1. There is no significance difference in the assessment among the college students as regards their innovative behavior when their profile is taken as test factor.

H2. There is no significant difference in the assessment among the college students as regards their entrepreneurial competence when their profile is taken as a test factor.

H3. There is no significant relationship between innovative

behavior and entrepreneurial competence

5. METHODOLOGY

5.1. Research Design

This study will employ a quantitative research approach. Specifically, it will utilize a descriptive comparative research design, which the researcher considers as appropriate as it pertains to the assessment overview variables of college students' innovation and entrepreneurship. The study aims to assess the relationship between the innovative behavior and entrepreneurial competence of college students with the results serving as a reference for relevant output. A survey method will be employed, using a modified questionnaire as the tool for collecting participants' information. The descriptive design will be considered as the most suitable for this study because compared with other survey methods, it is the most extensive and inclusive tool.

5.2. Research Participants

The study will select college students from universities in Hubei Province as participants. The target sample size for this study will consist of at least 313 college students who are actively participating in employment and innovation training courses offered by universities.

The college students who will be surveyed will be enrolled in relevant universities in Hubei Province and will have already taken part in training courses related to innovation and entrepreneurship. The research will be conducted in a Chinese-language environment using a questionnaire. After data collection will be completed, the data will be organized and subsequently translated into English.

The study will employ a random sampling method to select research participants. The sample size (n) will be calculated using the Solvang formula. At least 313 college students will be randomly chosen from the pool of enrolled university students to participate in this research.

Table 1. Participant Frequency and Respective Percentages

	Frequency
college students	313
Total	313

5.3. Data Gathering Procedure

The researcher will request approval from the president to collect the relevant data needed for the institute. With the approval of the president, the researcher will work with teachers at relevant universities in Hubei province. The researcher will administer the questionnaire for the student participants through the Questionnaire Star website (<https://www.wjx.cn/>).

6. Results and Analysis

This chapter presents the results, analysis and interpretation of the following data: profiles of the respondents, such as gender, age, grade level, student innovation behavior, and eight dimensions of levels and relationships of entrepreneurial level.

6.1. The Profile of the Respondents

Table 2 presents the frequency and percentage distribution of participants grouped by profiles. As shown in the table, in terms of gender, the proportion of females is 63.3%, notably higher than males at 36.7%. This indicates a relatively higher

number of females in this particular group, reflecting a specific societal or organizational trend of increased female participation. In terms of age, individuals aged 20-30 constitute the highest proportion at 97.8%. In contrast, the age groups of 31-40 and 50 and above have lower percentages, at 1.0% and 1.3% respectively. This suggests that the group is predominantly composed of younger individuals, indicating a youthful demographic or professionals from a specific field. Regarding grade levels, Grade Level 2 has the highest percentage at 44.1%, followed by Grade Level 1 at 34.8%. This signifies that, in this group, there is a relatively larger number of individuals at Grade Level 2, likely associated with tasks, projects, or job opportunities at that level. Conversely, Grade Level 4 has the lowest percentage at 6.4%, indicating a relatively smaller number of individuals at higher levels, suggesting fewer responsibilities or requirements at advanced levels for the overall group.

Table 2. The profile of participants

Profile		frequency	percentage
Gender	male	115	36.7
	female	198	63.3
	Total	313	100.0
Age	20-30	306	97.8
	31-40	3	1.0
	above50	4	1.3
	Total	313	100.0
Grade	Grade Level 1	109	34.8
	Grade Level 2	138	44.1
	Grade Level 3	46	14.7
	Grade Level 4	20	6.4
	Total	313	100.0

6.2. The Assessment of the College Students as Regards Their Innovative Behavior

6.2.1. Literature Awareness

Table 3. The Assessment of Literature Awareness

	Mean	SD	Descriptive	Rank
1. Reading literature widens my horizons and view of the world.	3.32	0.59	Strongly Agree	2
2. Literary works can provide deep emotional experience and thinking opportunities.	3.32	0.58	Strongly Agree	2
3. Reading literature helps to expand my vision and understand the world.	3.33	0.58	Strongly Agree	1
4. Literary works have had a positive impact on my personal growth and development.	3.31	0.58	Strongly Agree	3
5. I think literature can inspire creativity and imagination.	3.32	0.57	Strongly Agree	2
Overall	3.32	0.56	Strongly Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 3 illustrates the assessment of literary awareness in the evaluation of innovative behaviors among college students. The results indicate that the highest-scoring item is "Reading literature helps to expand my vision and understand the world," with a score of 3.33 and a standard deviation of 0.58. The lowest-scoring item is "Literary works have had a positive impact on my personal growth and development," scoring 3.31 with a standard deviation of 0.58. This suggests that among participants, the statement emphasizing the contribution of literature to broadening perspectives and understanding the world received a relatively high average score, while the acknowledgment of the positive impact of literary works on personal growth and development is slightly lower. The relative consistency of standard deviations implies that participants hold relatively consistent views on these two statements. Therefore, participants generally exhibit a high level of literary awareness, strongly agreeing that literature helps expand their horizons, provides profound emotional experiences, and stimulates creativity and imagination. However, opinions on the impact of literature on personal growth vary, reflecting diverse individual experiences and perspectives on the role of literary works at a personal level.

Wang, Q., Xu, X., & Yuan, Z. (2018) pointed out in their study that the themes and characteristics of literary works have a profound impact on participants' perceptions. The statements cover the influence of literary works on perspectives, emotional experiences, creativity, and more, with different literary works yielding different effects in these aspects. Individual literary tastes, literary experiences, and personal life backgrounds influence their perception of the value of literature. For instance, some individuals may prefer socially critical literary works, while others may enjoy literature exploring individual emotions and growth. This diversity leads to varying viewpoints and scores among participants regarding the impact of literature.

Ning, D., He, T., Deng, J., et al. (2023) pointed out in their research that individual education and cultural backgrounds are key factors influencing these data results. Different educational systems and cultural traditions shape individuals' cognitive patterns and evaluation criteria for literature. Some participants who have received more literary education tend to have a higher understanding and appreciation of literature, resulting in higher scores on various statement items. On the other hand, participants from cultural environments that place less emphasis on literary traditions may assign relatively lower value to literature. Such cultural differences contribute to significant variations in the evaluation of literary statements among different individuals.

Ma, H., Xiao, B., & Wang, C. (2023) highlighted in their study that the generation of data results is a complex and multifactorial process involving individual literary tastes, the characteristics of literary works, as well as education and cultural traditions. This diversity makes the evaluation of literature not only subjective but also influenced by the intertwining factors of individual experiences and cultural influences.

6.2.2. Creativity

Table 4 displays the evaluation of Creativity in the assessment of innovative behaviors among college students. The results indicate that the overall average score for statements related to solving complex problems, adapting to complex environments, and unleashing creativity is 3.24, with a standard deviation of 0.57, falling within the range of "Strongly Agree" to "Agree." The highest-scoring item is "I

find delight in trying to solve complex problems" (3.25), while the lowest-scoring item is "I can often think and solve both simple and complex problems from different perspectives" (3.23). This suggests that participants, on the whole, hold a positive attitude, strongly identifying with enjoying solving complex problems and maintaining an optimistic mindset when facing challenges. However, the recognition of the ability to think and solve problems from different perspectives is slightly lower than other statement items. Overall, participants demonstrate a positive attitude and capability in dealing with complexity, challenges, and creativity, but there is room for improvement in thinking from multiple perspectives. This implies a need for further attention and support in cultivating participants' creative thinking, especially in multidimensional problem-solving abilities.

Table 4. The Assessment of Creativity

	Mean	SD	Descriptive	Rank
1. I find delight in trying to solve complex problems	3.25	0.62	Strongly Agree	1
2. I am able to continuously modify and enhance my understanding of my activities and work despite its complexity and challenges.	3.24	0.58	Strongly Agree	2
3. I am at my best in creatively integrating varied resources from the school, the network and the community.	3.25	0.57	Strongly Agree	1
4 I am happy trying out different and challenging experiences.	3.24	0.61	Strongly Agree	2
5. I can often think and solve both simple and complex problems from different perspectives.	3.23	0.58	Agree	3
Overall	3.24	0.55	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Yu (2023) pointed out in their study that individual cognition and psychological orientation influence this data. Participants exhibit a higher interest and positive attitude towards solving complex problems and facing challenges, reflecting their preference for challenging tasks and psychological readiness to tackle problems actively. However, the relatively lower scores on the statement regarding thinking and solving problems from different perspectives indicate that some participants have lower self-awareness and confidence in multidimensional thinking. This stems from individual cognitive preferences, where some people tend to solve problems directly without deeply considering multiple perspectives. Additionally, differences in awareness and understanding of multidimensional problem-solving abilities arise due to variations in individual experiences and academic backgrounds.

Yang, & Xu. (2023) noted in their research that the environment and educational background are also crucial factors contributing to these results. Participants receive high

evaluations for their ability to integrate various resources in school, social networks, and communities, reflecting their adaptability and collaborative skills in diverse environments. However, the ability to think from different perspectives is influenced by the emphasis of the education system on creative thinking and teaching methods. Whether the educational environment encourages students to try different perspectives in problem-solving and provides corresponding training and opportunities can impact individual capabilities in this regard. In some cases, education systems may focus more on traditional problem-solving methods, resulting in relatively lower scores in this aspect.

Xu, & Liu (2023) pointed out in their study that the formation of these results is the result of the interaction between individual cognition and psychological orientation, and the environment and educational background. To enhance the ability to think from multiple perspectives, efforts need to be made in cultivating individual cognitive levels and improving the educational environment to promote the development of more comprehensive and creative problem-solving abilities.

6.2.3. Novel Approaches to Problems

Table 5. The Assessment of Novel Approaches To Problems

	Mean	SD	Descriptive	Rank
1 I pay attention to new ways of learning innovation in advanced countries and I think about how to apply them in my studies.	3.25	0.58	Strongly Agree	1
2. At the end of each lesson activities, I tried my best to look for new concepts and themes.	3.22	0.58	Agree	4
3. I generate innovative ideas so as to recommend new learning activities as a way of contributing to class activities.	3.23	0.58	Agree	3
4. I am always able to absorb key problems and issues in practical scientific research and have the capability to resolve them.	3.24	0.56	Agree	2
5. I am capable of seeking new ideas and possible solutions to problem solving.	3.24	0.57	Agree	2
Overall	3.24	0.54	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 5 presents the evaluation of Novel Approaches To Problems in the assessment of innovative behaviors among college students. Participants' overall average score for statements related to learning innovation and problem-solving is 3.24, with a standard deviation of 0.54, indicating an "Agree" level. The highest-scoring item is "I pay attention to new ways of learning innovation in advanced countries and I think about how to apply them in my studies" (3.25), while the lowest-scoring item is "At the end of each lesson activities, I tried my best to look for new concepts and themes" (3.22). This suggests that participants, on the whole, exhibit a

positive attitude and capability towards learning innovation and problem-solving. They show an interest in learning innovation, actively thinking about how to apply new methods, and possess the ability to absorb key issues and solve them in practical scientific research. However, the ability to actively seek new concepts and themes after each class is relatively lower. Overall, participants demonstrate a certain level of enthusiasm and ability in learning innovation and problem-solving, but there is a need for further strengthening in certain aspects. Participants have a high self-evaluation of innovation and problem-solving in the learning process, indicating their continuous efforts to progress and adapt to new concepts. However, the lowest-scoring item suggests room for improvement in actively seeking new concepts and themes after each class, requiring a more systematic approach or encouragement for students to engage in deeper reflection and exploration of course content.

Zhang(2023) pointed out in their study that the high-scoring statements emphasize participants' attention to learning innovation and their proactive approach to practical problem-solving. This is influenced by the encouragement from the education system, where educational institutions emphasize the introduction of advanced international learning methods and innovative concepts, sparking students' interest and thoughts on new approaches. Additionally, the high scores in academic research indicate that participants have the ability to absorb and solve practical problems, benefiting from course design or practical experience that enables them to apply learned knowledge in real-world problem-solving.

Zheng (2023) noted in their research that the lower-scoring item reflects some challenges in actively seeking new concepts and themes after each class. This stems from course design and learning environments; if course content is relatively fixed or lacks elements that stimulate thinking, students may lack motivation to actively seek new concepts. Additionally, this is influenced by students' learning motivations and habits, as some students may prefer passive learning rather than active reflection.

Wang(2023) pointed out in their study that the formation of these results is the result of the interaction between the educational environment, academic atmosphere, and individual learning motivation. High scores reflect a positive attitude and ability in learning innovation and problem-solving, while lower scores suggest a need to strengthen teaching design and strategies to encourage active learning in actively seeking new concepts and themes after each class. Continuing to provide rich academic resources, emphasizing the importance of practical problem-solving, and prompting students to think and explore more actively in their learning can contribute to improving scores in this aspect.

6.2.4. Adaptability in Learning

Table 6 presents the evaluation of Adaptability In Learning in the assessment of innovative behaviors among college students. The data indicates that participants' overall attitude and capability towards innovative teaching received an average score of 3.21, with a standard deviation of 0.55, falling within the "Agree" level. The highest-scoring item is "I can perceive the impact of innovative teaching on student learning and improve my teaching in the process of practice" (3.23), while the lowest-scoring item is "I often have new inspirations and ideas for teaching and classroom management" (3.19). Participants overall exhibit a positive attitude and a certain level of capability in innovative teaching. They express relative confidence in perceiving the impact of

innovative teaching on student learning and continuously improving their teaching methods through practical experience. Additionally, they believe they can apply new teaching methods to enhance teaching effectiveness and inspire student motivation. However, the scores for frequently having new inspirations and ideas for teaching and classroom management are relatively lower, indicating that some participants have limited innovative thinking and inspiration in this area. This suggests that participants hold a positive attitude towards innovative teaching, believing it has a positive impact on student learning, and are willing to experiment with different methods in practice. However, there is a need for further encouragement of innovative thinking and the provision of innovative educational resources to address teaching challenges more comprehensively.

Table 6. The Assessment of Adaptability in Learning

	Mean	SD	Descriptive	Rank
1. I can perceive the impact of innovative teaching on student learning and improve my teaching in the process of practice	3.23	0.57	Agree	1
2. I often have new inspirations and ideas for teaching and classroom management	3.19	0.60	Agree	4
3. I can use new teaching methods to enhance the effectiveness of teaching and learning and to increase students' motivation to acquire knowledge.	3.22	0.58	Agree	2
4. I am familiar with the latest trends in teaching and assessment methods to make adjustments in my classroom teaching.	3.21	0.57	Agree	3
5. I use flipped classroom or other advanced teaching methods to meet teaching needs.	3.21	0.61	Agree	3
Adaptability Learning	3.21	0.55	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Wang (2023) pointed out in their study that higher scores indicate participants' relative confidence in perceiving the impact of innovative teaching on student learning and continuously improving teaching methods through practice. This is attributed to the emphasis and training on innovative teaching within the education system, enabling teachers to consciously focus on the effectiveness of teaching methods in practical teaching and be willing to try new teaching approaches. The innovative educational resources and

training provided by educational institutions prompt teachers to actively apply new teaching concepts and methods in practice, perceiving their positive impact on student learning.

Song (2023) noted in their research that the relatively lower scores in frequently having new inspirations and ideas for teaching and classroom management reflect some challenges. This is influenced by the teaching environment, including teaching pressure, time constraints, and the rigidification of some traditional teaching models. Teachers feel pressed for time in addressing daily teaching challenges, making it difficult to constantly remain sensitive to new inspirations and ideas. Additionally, some traditional teaching cultures and management styles inhibit teachers' attempts at innovation in classroom management, resulting in fewer new inspirations in this area.

Qi (2023) highlighted in their study that the formation of these results is the result of various factors, including the support and training within the education system, challenges in the teaching environment, and the influence of educational culture. To promote the development of teachers in innovative teaching and classroom management, more support and resources are needed. This includes providing more specific, practical innovative teaching methods and cases, encouraging teachers to participate in training and seminars on innovative teaching, and urging schools to create a more flexible teaching management environment. This will help enhance teachers' capabilities and enthusiasm in innovative teaching and classroom management.

Table 7. The summary of Assessed Innovative Behavior

	Mean	SD	Descriptive	Rank
A. Literature Awareness	3.32	0.56	Agree	3
creativity	3.24	0.55	Agree	2
Novel Approaches Problems	3.24	0.54	Agree	2
Adaptability Learning	3.21	0.55	Agree	4
Overall	3.25	0.52	Strongly Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 7 displays the overall mean and individual dimension assessments of innovative behaviors among college students. Participants' overall scores in each dimension assessed (literary awareness, creativity, novel approaches to new problems, adaptability in learning) are all above the "Agree" level, with an overall innovation behavior score of 3.25 and a standard deviation of 0.52, reaching the "Strongly Agree" level. This indicates that participants have a relatively high self-evaluation in the assessed dimensions of innovative behaviors. Specifically, they demonstrate "Agree" level scores in literary awareness, creativity, novel approaches to new problems, and adaptability in learning, suggesting a positive attitude and some level of ability in these areas. The overall innovation behavior score of 3.25, reaching the "Strongly Agree" level, indicates participants' strong confidence in their overall innovative behavior. This reflects participants' attention to and practice of innovation in academic, professional, or work contexts. The high scores suggest that they possess attitudes and skills related to literary awareness, creativity, problem-solving, and adaptability in learning. However, it is essential to note that these results are based on self-assessment, influenced by subjective factors.

Future research could incorporate external evaluations or actual innovation outcomes to more comprehensively and objectively assess participants' innovative behaviors.

Long, Zhu, & Hu (2023) pointed out in their study that individual traits and attitudes play a crucial role in these results. Individuals with curiosity about new ideas and methods, open-mindedness, and a willingness to try and learn tend to exhibit positive behaviors in innovation. The high scores in literary awareness, creativity, adaptation to new problems, and adaptability in learning reflect participants' confidence and willingness to take on challenges in these areas. These individual traits drive participants to actively explore new thoughts and methods in academic, professional, or work environments.

Zhang, & Cheng (2023) emphasized in their research that the impact of educational backgrounds and work experience on innovative behaviors should not be overlooked. Factors such as whether the education system emphasizes innovative education, whether the work environment encourages innovative thinking, and whether participants have opportunities to engage in innovative projects all influence individual performance in innovative behaviors. Individuals with rich education and work experience have more opportunities to encounter new concepts and methods, demonstrating stronger confidence and capabilities in innovative behaviors.

Li, Chen, Li et al. (2023) highlighted in their study that individual understanding of innovation is also a crucial factor in forming these results. If participants have a broad definition of innovation, including literary awareness, creativity, novel approaches to new problems, and adaptability in learning, they are more likely to evaluate overall innovative behaviors positively. This broad understanding of innovation encourages participants to explore innovation in different areas, contributing to an overall increase in the innovation behavior score.

Liu (2023) pointed out in their research that the formation of these results is a product of the interaction between individual traits, educational backgrounds, work experience,

and attitudes and understanding of innovation. This underscores the importance of not only individual efforts to enhance personal skills but also the creation of an environment that encourages innovation in both education and work settings to promote innovative behaviors.

6.3. The Significant Difference in the Assessment Among the College Students as Regards Their Innovative Behavior When group by Profile

6.3.1. Gender

Table 8 presents the results of t-test analysis, determining significant differences in the innovation behavior levels of college student participants when classified by gender. As the data indicates, there are some differences in the scores between genders in various dimensions (literary awareness, creativity, novel approaches to new problems, adaptability in learning). In terms of literary awareness, the difference between males (Mean=3.35) and females (Mean=3.30) is not statistically significant ($t=0.85$, $p=0.40$), and, therefore, this difference is considered not statistically meaningful. However, in the dimensions of creativity, novel approaches to new problems, and adaptability in learning, the differences between males and females are all significant ($p < 0.05$). Specifically, males score significantly higher than females in creativity (Mean=3.34), novel approaches to new problems (Mean=3.33), and adaptability in learning (Mean=3.34), compared to females (creativity: Mean=3.18, novel approaches to new problems: Mean=3.18, adaptability in learning: Mean=3.14). This suggests gender differences in various dimensions of innovative behavior, with males exhibiting relatively higher scores in creativity, solving new problems with new approaches, and adaptability in learning, indicating greater confidence and ability in these areas. However, the score difference between males and females in literary awareness is not significant, indicating that gender does not have a noticeable impact in this specific area.

Table 8. The Test of The Significant Difference in The Assessment Among The College Students As Regards Their Innovative Behavior When group by Gender

	Gender	N	Mean	t	Sig	Interpretation	Decision
Literature Awareness	male	115	3.35	0.85	0.40	Not Significant	Accept NULL
	female	198	3.30				
creativity	male	115	3.34	2.34	0.02	Significant	Reject NULL
	female	198	3.18				
Novel Approaches Problems	male	115	3.33	2.37	0.02	Significant	Reject NULL
	female	198	3.18				
Adaptability Learning	male	115	3.34	3.30	0.00	Significant	Reject NULL
	female	198	3.14				

Legend: $\alpha = 0.05$

Wang, Zhang, Wang et al. (2023) pointed out in their study that social and cultural factors play a crucial role in gender differences. Societal expectations and stereotypes regarding the roles of males and females in education and professions contribute to their distinct behaviors in innovative activities. Traditionally, society tends to expect males to exhibit stronger decision-making, creativity, and adaptability, while females are often associated with communication, collaboration, and

attention to detail. These societal expectations influence gender differences in scores across dimensions of innovative behavior, leading males to show more confidence and prominence in creativity, solving new problems with new approaches, and adaptability in learning.

Zou. & Huo. (2023) emphasized in their research that individual experiences and educational backgrounds also play a role in gender differences. Males and females face different

experiences and opportunities in educational and work environments, which significantly shape their attitudes and capabilities in innovative behavior. If males have easier access to innovative learning and work opportunities or are more encouraged to try new methods in education, their scores in innovative behavior will be significantly higher than those of females. This gender difference stems from latent biases in education and the workplace, including the unequal distribution of educational resources and job opportunities.

Zhang (2023) highlighted in their research that social and cultural factors intertwine with individual experiences in causing gender differences in innovative behavior dimensions.

To understand and address this difference, there is a need to promote awareness of gender equality at the societal level, eliminating stereotypical impressions of gender in innovative behavior. Simultaneously, the education system and the workplace should provide equal opportunities and resources to ensure fair development environments for individuals of all genders in innovative behavior. By eliminating the root causes of gender differences, it is possible to unleash the full innovative potential of individuals and promote a more inclusive and innovative society.

6.3.2. Age

Table 9. The Test Of The Significant Difference In The Assessment Among The College Students As Regards Their Innovative Behavior When group by Age

		N	Mean	F	Sig	Interpretation	Decision
A.LiteratureAwareness	20-30	306	3.33	5.70	0.00	Significant	Reject NULL
	31-40	3	3.33				
	above50	4	2.40				
	Total	313	3.32				
creativity	20-30	306	3.24	0.42	0.66	Not Significant	Accept NULL
	31-40	3	3.33				
	above50	4	3.00				
	Total	313	3.24				
NovelApproachesProblems	20-30	306	3.24	0.43	0.65	Not Significant	Accept NULL
	31-40	3	3.33				
	above50	4	3.00				
	Total	313	3.24				
AdaptabilityLearning	20-30	306	3.21	0.38	0.69	Not Significant	Accept NULL
	31-40	3	3.33				
	above50	4	3.00				
	Total	313	3.21				

Legend: $\alpha = 0.05$

Table 9 displays the results of the F-test analysis, determining significant differences in the innovation behavior levels of college student participants when classified by age. As the data indicates, there is a significant difference among age groups in literary awareness ($F=5.70$, $p<0.05$). Specifically, college students aged 20-30 score slightly higher in literary awareness compared to the age groups of 31-40 and 50 and above. This suggests that age has an impact on individuals' innovative behavior in literary awareness to some extent. In practical decision-making, it may be considered to provide more differentiated support for students in different age groups in education and training to better stimulate their literary awareness. However, differences among age groups in creativity, novel approaches to new problems, and adaptability in learning are not significant ($F<1$, $p>0.05$). This indicates that, in these aspects, college students aged 20-30, 31-40, and 50 and above show relatively consistent performance in innovative behavior. This consistency reflects that abilities in creativity, solving new problems with new approaches, and adaptability in learning are not significantly associated with age. Therefore, there is no need to overly differentiate treatment for students of different age groups in decision-making, and emphasis can be placed on these

universal abilities during the process of cultivating innovative behavior.

Zhang, & Wang(2023) pointed out in their study that individual developmental stages and accumulated experiences play a crucial role in these differences. Older students have accumulated richer experiences in academics and professions, including the understanding and application of literary awareness, leading to relatively higher scores in this dimension. Additionally, as age increases, individuals' cognitive and thinking abilities become more mature, allowing for a more profound understanding and application of literary knowledge. In contrast, younger students are in the early stages of learning and cognitive development, yet to fully develop a deep understanding of literary awareness, resulting in relatively lower scores in this aspect. This difference reflects the natural trajectory of individuals in academic and cognitive development.

Zhang, & Liang (2023) highlighted in their research that the educational and learning environment influences the innovative behavior of students in different age groups. Factors such as the allocation of educational resources and differences in teaching methods in school and classroom environments affect students' performance across different

dimensions of innovative behavior. There are specific educational measures or curriculum designs that are more favorable for the development of literary awareness among older students. This is also related to the disciplinary areas, majors, and teaching philosophies of students in different age groups. Therefore, the differences in innovative behavior among age groups are shaped and guided by the school and educational environment.

Zhang, & Zhang (2023) pointed out in their study that the impact of age on innovation behavior in college students is complex and multi-layered. Individual cognitive

development and experience accumulation, along with differences in the educational and learning environment, collectively shape the performance differences in literary awareness among students of different age groups. This understanding contributes to the formulation of more differentiated and targeted educational strategies to better promote the comprehensive development of students of different age groups in innovative behavior.

6.3.3. Grade

Table 10. The Test Of The Significant Difference In The Assessment Among The College Students As Regards Their Innovative Behavior When group by Grade

		N	Mean	F	Sig	Interpretation	Decision
A.LiteratureAwareness	Grade Level 1	109	3.30	1.16	0.33	Not Significant	Accept
	Grade Level 2	138	3.28				NULL
	Grade Level 3	46	3.42				
	Grade Level 4	20	3.45				
	Total	313	3.32				
creativity	Grade Level 1	109	3.26	1.61	0.19	Not Significant	Accept
	Grade Level 2	138	3.18				NULL
	Grade Level 3	46	3.37				
	Grade Level 4	20	3.28				
	Total	313	3.24				
NovelApproachesProblems	Grade Level 1	109	3.25	0.87	0.46	Not Significant	Accept
	Grade Level 2	138	3.19				NULL
	Grade Level 3	46	3.31				
	Grade Level 4	20	3.31				
	Total	313	3.24				
AdaptabilityLearning	Grade Level 1	109	3.23	0.71	0.55	Not Significant	Accept
	Grade Level 2	138	3.17				NULL
	Grade Level 3	46	3.29				
	Grade Level 4	20	3.25				
	Total	313	3.21				

Legend: $\alpha = 0.05$

Table 10 presents the results of the F-test analysis, confirming significant differences in the innovation behavior levels of college student participants when classified by grade. As the data indicates, the analysis examined score differences among different grades of college students across four dimensions of innovative behavior (literary awareness, creativity, novel approaches to new problems, and adaptability in learning). In terms of literary awareness, the differences among different grades are not statistically significant ($F=1.16$, $p>0.05$). Specifically, college students' scores in literary awareness show little variation across different grades, and the differences are not statistically significant. Moreover, differences among grades in creativity, novel approaches to new problems, and adaptability in learning are also not significant ($F<2$, $p>0.05$). Overall, college students from different grades exhibit relatively consistent performance across various dimensions of innovative behavior, with grades not significantly impacting their innovation behavior scores. This suggests that students' abilities and attitudes in literary awareness, creativity, solving new problems with new approaches, and adaptability in learning remain relatively stable throughout their college years. In practical decision-making, educators and decision-makers can employ consistent teaching and training strategies, without overly focusing on grade-based differences. This result helps educational decision-makers better understand the developmental trends in college students' innovation behavior while also indicating that educators, when designing

targeted training and support measures, need not overly emphasize students' grade levels, instead focusing on individual innovation needs and potential.

Cai., & Nie. (2023) pointed out in their study that the non-linearity of individual development explains the lack of significant differences among different grades. The development of college students' innovative behavior does not strictly follow a linear trend with increasing grades but is influenced by various factors, including individual talents, interests, and academic fields. Some students may demonstrate higher innovative abilities from the beginning, and these differences do not significantly widen across different grades over time. Therefore, grade is not the sole determinant of innovation behavior levels, and individual differences play a crucial role in this outcome.

Xu., & Chen. (2023) mentioned in their research that the relative consistency of the learning environment helps explain this phenomenon. If the teaching environment and cultivation methods of the university are relatively consistent across different grades, and students receive similar educational resources and opportunities, then their scores in innovative behavior remain relatively stable across grades. This reflects a more balanced education system committed to nurturing students' innovative capabilities, irrespective of significant influences from grade levels. Hence, the relative consistency of the school's educational environment and teaching strategies positively influences the lack of grade-based differences.

Yu., & Xie. (2023) emphasized in their study that the similarity of innovative behavior dimensions among college students from different grades results from the combined effects of the non-linearity of individual development and the relative consistency of the learning environment. This understanding underscores the need, in educational management and decision-making, to focus more on individual differences, providing personalized support and training for students. Simultaneously, it highlights the positive role of a consistent educational environment in fostering students' innovative capabilities. In future educational strategies, educators and decision-makers can place greater emphasis on providing diverse learning opportunities and personalized support to better stimulate students' innovation potential.

6.4. The Assessment of the College Students as Regards Their Entrepreneurial Competence

6.4.1. Model Construction

Table 11. The Assessment Of Model Construction

	Mean	SD	Descriptive	Rank
1. It is important that I see my own ability to build models.	3.20	0.57	Agree	5
2. Model building is very important to improve my entrepreneurial skills.	3.24	0.56	Agree	1.5
3. I think that I can better understand and apply entrepreneurship theories and concepts through model building.	3.23	0.55	Agree	3
4. I think that model building is helpful in cultivating my ability to analyze and solve problems.	3.24	0.54	Agree	1.5
5. I think that the model construction should be fully applied in the entrepreneurship education courses in schools.	3.21	0.57	Agree	4
Overall	3.22	0.53	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 11 presents the evaluation of Model Construction in the entrepreneurial competence of college students. The data indicates that participants hold a positive overall attitude towards the evaluation of model construction. The overall mean is 3.22, with the highest score at 3.24 and the lowest at 3.20, all falling within the "Agree" range. This suggests that participants generally believe model construction plays a crucial role in enhancing entrepreneurial capabilities,

understanding and applying entrepreneurial theories and concepts, as well as cultivating analytical problem-solving skills. Participants express support for the comprehensive application of model construction in entrepreneurship education courses at the university. This implies that participants have a positive view of the role of model construction in entrepreneurship education. They believe that constructing models can enhance their understanding and application of entrepreneurial theories, improve their entrepreneurial skills, and cultivate analytical problem-solving abilities. Overall, these perspectives emphasize the value of model construction as a teaching method in entrepreneurship education, aiding students in deepening their understanding of knowledge in the entrepreneurial domain and fostering practical application and problem-solving skills. This has positive implications for the effectiveness of entrepreneurship education and the comprehensive development of students' entrepreneurial abilities.

Xue. & Song. (2023) pointed out in their study that participants' individual experiences and educational philosophies influence their perceptions of model construction. The participants' educational backgrounds, academic majors, and prior learning experiences shape their preferences and cognition of teaching methods. If participants have had positive experiences with model construction in previous learning or if their professional fields emphasize practical application and problem-solving, they are more likely to hold a positive attitude towards model construction. Additionally, educational philosophies are crucial for individuals' acceptance of teaching methods. If participants align with a practice-oriented teaching philosophy, emphasizing learning by doing and cultivating practical skills, they are more likely to view model construction as an effective teaching tool in entrepreneurship education.

Liu., & Ling. (2023) highlighted in their research that the actual benefits of model construction in entrepreneurship education are one of the reasons why participants hold a positive attitude towards it. Model construction not only helps students transform theoretical knowledge into practical applications but also cultivates analytical and problem-solving abilities. Through model construction, students can gain a deep understanding of theoretical concepts in the entrepreneurial domain and apply these concepts to real-world problems, thereby enhancing their entrepreneurial skills. Participants form a positive perception of model construction by cognitively recognizing these practical benefits through firsthand experiences or feedback from other learners. If students can personally experience the enhancement of entrepreneurial abilities through model construction in the course, they are more likely to acknowledge the importance of model construction in entrepreneurship education.

Liu., & Song. (2023) pointed out in their study that participants' positive attitudes towards model construction are influenced by individual experiences and educational philosophies, closely related to the practical benefits brought about by model construction in entrepreneurship education. This understanding provides insights for educators and decision-makers, emphasizing the importance of incorporating teaching methods that are highly practical and promote the cultivation of problem-solving abilities when designing entrepreneurship education courses to better meet students' learning needs.

6.4.2. Industry Component Trends

Table 12. The Assessment of Industry Component Trends

	Mean	SD	Descriptive	Rank
1. I think it is very important to understand the competitive trends and future developments of the industry.	3.26	0.54	Strongly Agree	1
2. I need to track and adapt to the changing competitive trends in the industry to remain competitive.	3.26	0.53	Strongly Agree	1
3. There is a need for me to track and adapt to the changing competitive trends in the industry to remain competitive.	3.26	0.53	Strongly Agree	1
4. I can better locate and develop innovative products or services by understanding the competitive trends in the industry.	3.26	0.53	Strongly Agree	1
5. The understanding of industry competition trends is to be fully applied in entrepreneurship education courses in schools.	3.26	0.54	Strongly Agree	1
Overall	3.26	0.51	Strongly Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 12 presents the evaluation of Model Construction in the entrepreneurial competence of college students. The data results indicate that participants hold a highly consistent attitude towards the evaluation of industry competitive trends. The overall mean is 3.26, with the highest and lowest scores both at 3.26, all falling within the "Strongly Agree" range. This suggests that participants universally believe understanding industry competitive trends is crucial for entrepreneurship. They strongly agree that continuously tracking and adapting to industry competitive trends is essential for maintaining competitiveness. Participants believe that through a profound understanding of industry competitive trends, they can better position and develop innovative products or services, supporting the application of this understanding in entrepreneurship education courses at the university. This result emphasizes participants' high regard for industry competitive trends and their recognition of the necessity to incorporate this understanding into entrepreneurship education courses. Overall, this consistent attitude reflects sensitivity to industry dynamics, acknowledging the importance of timely understanding and adapting to industry competitive trends for entrepreneurial success. In practical decision-making, this indicates that educators and decision-makers should emphasize the importance of industry analysis and trend forecasting in entrepreneurship education to cultivate students' sensitivity

and adaptability to changes in the business environment.

Liu (2023) pointed out in his research that participants' perception of entrepreneurial success influences their attitude towards industry competitive trends. Entrepreneurs typically need to insightfully understand market and industry dynamics and adjust strategies promptly to maintain competitiveness. Therefore, participants deeply understand the importance of understanding industry competitive trends in the entrepreneurial process. They translate this perception into a strong agreement on aspects such as understanding competitive trends, tracking changes, and adapting to the market. This perception of entrepreneurial success is also related to their personal experiences or academic backgrounds, especially for those who are already entrepreneurs or plan to become entrepreneurs, as they better understand the critical role of industry competitive trends in the survival and development of businesses.

Zhang., & Yin. (2023) highlighted in their research that practical demands in industry education influence participants' attitudes. If participants believe that understanding industry competitive trends is crucial for future career development and entrepreneurial success, they are more inclined to emphasize learning and training needs in this aspect. This practical demand is influenced by the continuous changes in the business environment and increasing competition. In this context, entrepreneurs and business owners need to possess sharper industry insights to better cope with intense market competition. Therefore, participants strongly agreeing to apply the understanding of industry competitive trends in entrepreneurship education courses reflects a response to practical demands.

Li., Zhu., & Ni. (2023) pointed out in their research that participants' high recognition of industry competitive trends is a result of the combined influence of their perception of entrepreneurial success and attention to the practical demands of industry education. This understanding provides insights for the design and implementation of entrepreneurship education, emphasizing that educators should focus on cultivating students' insight and adaptability to the industry environment when fostering their entrepreneurial spirit and capabilities.

6.4.3. Profitability Analysis

Table 13 presents the evaluation of Model Construction in the entrepreneurial competence of college students, specifically focusing on the assessment of profitability analysis. The data results indicate that participants' overall evaluation of profitability analysis is positive, with an overall mean of 3.24. The highest score is 3.26, and the lowest score is 3.23, all falling within the range of "Agree" to "Strongly Agree." This suggests that participants universally believe conducting profitability analysis is crucial when assessing students' entrepreneurial skills. They strongly agree that students need to possess the ability to analyze and evaluate the profit potential of entrepreneurial projects for achieving business success. Additionally, they acknowledge the importance of teaching students how to conduct profitability analysis in schools or other educational institutions to enhance their entrepreneurial skills. This unanimous attitude reflects a high recognition of the importance of profitability analysis in entrepreneurship education and supports incorporating this understanding into entrepreneurship education courses. This result emphasizes participants' endorsement of profitability analysis, considering it an indispensable component in cultivating students'

entrepreneurial skills. They highlight the value of profitability analysis in helping students predict and plan financial goals and investment needs. Overall, this positive evaluation reflects a focus on practical business operations, emphasizing that students need keen insight and analytical skills regarding profitability in the entrepreneurial process. In practical educational applications, this awareness suggests that educators should prioritize cultivating students' financial analysis and business acumen in entrepreneurship courses, enabling them to better assess the profit potential of entrepreneurial projects. It also reflects the practical need for entrepreneurs to consider financial feasibility in business decisions, emphasizing the close connection between educational goals and professional practice.

Table 13. The Assessment of Profitability Analysis

	Mean	SD	Descriptive	Rank
1. The ability to conduct profitability analysis when evaluating students' entrepreneurial skills is of paramount importance.	3.25	0.55	Strongly Agree	2
2. The students need to be able to analyze and evaluate the profit potential of the entrepreneurial project to achieve commercial success.	3.26	0.55	Strongly Agree	1
3. In our school or other educational institutions, students must be taught how to conduct for-profit analysis to improve their entrepreneurial skills.	3.24	0.55	Agree	3.5
4. Profitability analysis helps students predict and plan their financial goals and investment needs.	3.23	0.54	Agree	4
5. The study of profitability analysis is fully applied in entrepreneurship education courses in schools.	3.24	0.54	Agree	3.5
Profitability Analysis	3.24	0.52	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Huang., & Zhao. (2023) pointed out in their research that one of the reasons for participants' positive attitude towards profitability analysis is the practical demand for

entrepreneurial practice. In the entrepreneurial process, profitability analysis is a crucial task that helps entrepreneurs comprehensively understand the financial situation of entrepreneurial projects, develop reasonable business plans, predict future profit potential, and plan corresponding financial goals. Participants, through actual business environments or communication with entrepreneurs, recognized that possessing excellent profitability analysis skills is crucial for entrepreneurial success. This practical demand strongly motivates them to agree to incorporate profitability analysis into entrepreneurship education, ensuring that students can competently handle this critical task in their future careers.

Li., & Jiang. (2023) pointed out in their research that participants' understanding of the goals of entrepreneurship education also influences their attitude towards profitability analysis. If participants firmly believe that the goal of entrepreneurship education should be to cultivate students into future entrepreneurs with comprehensive entrepreneurial skills, they are more likely to include essential skills from actual business practices, such as profitability analysis, in educational courses. This understanding makes them acknowledge the indispensability of profitability analysis in cultivating students' entrepreneurial skills, thus manifesting as strong agreement with this aspect.

Huang& Zhou. (2023) highlighted in their research that participants' high recognition of profitability analysis results from the combined influence of practical demands in entrepreneurial practice and a profound understanding of the goals of entrepreneurship education. This understanding suggests that entrepreneurship educators should focus on cultivating skills required for practical business operations, ensuring that entrepreneurship education aligns with professional practices. This way, students are equipped with the ability to successfully address various financial challenges in the entrepreneurial process.

6.4.4. Experimentation with New Ideas

Table 14 presents the evaluation of "Experimentation With New Ideas" in the entrepreneurial competence of college students. The data results indicate that participants' overall evaluation of experimenting with new ideas is positive, with an overall mean of 3.25. The highest score is 3.27, and the lowest score is 3.24, all falling within the range of "Agree" to "Strongly Agree." This suggests that participants unanimously believe that students need to actively experiment with new ideas and concepts to enhance their innovation capabilities. They also support encouraging students to experiment with new business ideas and projects in schools or other educational institutions. Participants believe that through active experimentation and validation of new business concepts in courses or projects, students can better understand market demands and customer feedback. Overall, this positive evaluation reflects participants' concern for cultivating students' innovation capabilities and their acknowledgment of experiential learning and entrepreneurship education. This result emphasizes the importance of experimental learning and trying new ideas in entrepreneurship education. Participants believe that by actively experimenting with new business concepts, students can cultivate innovation capabilities, understand market feedback, and develop problem-solving skills in practice. Overall, this encouraging attitude towards experimenting with new ideas reflects an emphasis on practicality and innovation in entrepreneurship education, aiming to cultivate

students' ability to flexibly address various business challenges in their future careers.

Table 14. The Assessment of Experimentation with New Ideas

	Mean	SD	Descriptive	Rank
1. The students need to actively try new ideas and concepts to promote their innovation ability.	3.27	0.52	Strongly Agree	1
2. Students are encouraged to try new business ideas and programs in our school or educational institution.	3.24	0.54	Agree	4
3. Students must be encouraged to actively experiment with and validate new business concepts in courses or projects.	3.24	0.53	Agree	4
4. Students can better understand the market demand and customer feedback by experimenting with new ideas.	3.24	0.53	Agree	4
5. New ideas have been fully used in the entrepreneurship education courses in schools particularly in our school.	3.26	0.55	Strongly Agree	2
Overall	3.25	0.51	Strongly Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Zheng. (2023) pointed out in their research that one of the main reasons for participants' positive attitude towards experimenting with new ideas is the practical demand for innovation capabilities. In the ever-changing business environment, innovation capabilities have become a crucial driver of entrepreneurial success. Participants, through firsthand experience in actual entrepreneurial practices, realized that only by actively experimenting with new ideas and concepts can they better adapt to market changes, seize opportunities, and maintain a leading position in competition. This practical demand strongly motivates them to strongly support students in actively experimenting with new business ideas in schools or educational institutions, considering it a necessary path to cultivate innovation capabilities.

Yi, Lin, & Cao (2022) pointed out in their research that the alignment with entrepreneurship education principles also

influences participants' attitude towards experimenting with new ideas. If participants agree that entrepreneurship education should emphasize experiential learning and cultivate an innovative spirit, they are more inclined to incorporate experimenting with new ideas into the core elements of entrepreneurship education. This alignment with principles makes them support students actively experimenting and validating new business concepts in courses or projects, believing that through such practical activities, students can better cope with future entrepreneurial challenges.

Qian & Luan (2022) highlighted in their research that participants' positive attitude towards experimenting with new ideas is a result of the combined recognition of the actual demand for innovation capabilities and alignment with entrepreneurship education principles. This understanding suggests that entrepreneurship educators should focus on cultivating students' innovative thinking and practical problem-solving abilities, providing them with a platform for experimenting with new ideas through experiential learning. This not only helps students become more competitive in the entrepreneurial process but also aligns with the current societal demand for innovative talents.

Table 15. The summary of Assessed Entrepreneurial Competence

	Mean	SD	Descriptive	Rank
Model Construction	3.22	0.53	Agree	4
Industry Component Trends	3.26	0.51	Strongly Agree	1
Profitability Analysis	3.24	0.52	Agree	3
Experimentation	3.25	0.51	Strongly Agree	2
Overall	3.24	0.51	Agree	

Legend: 3.25-4.00 Strongly Agree 2.50-3.24 Agree
 1.75-2.49 Disagree 1.00-1.74 Strongly Disagree

Table 15 presents the overall assessment results of entrepreneurial competence for college students, including evaluations across various dimensions. The data indicates that participants hold a generally positive view of the assessed entrepreneurial competence, with an overall mean of 3.24. The highest score is 3.26, and the lowest score is 3.22, all falling within the range of "Agree" to "Strongly Agree." This suggests a unanimous belief among participants that students possess a certain level of competence in the evaluated dimensions, such as model construction, understanding industry trends, profitability analysis, and experimenting with new ideas, sufficient to address entrepreneurial challenges. Overall, this positive evaluation reflects a general trust in entrepreneurship education, with participants believing that students have demonstrated adequate entrepreneurial competence in these aspects. The result emphasizes the effectiveness of entrepreneurship education, indicating that students have received good training in model construction, understanding industry trends, profitability analysis, and experimenting with new ideas within entrepreneurship courses. Overall, the consistent scores across these entrepreneurial core competencies suggest that students have demonstrated entrepreneurial potential in various areas. This comprehensive evaluation provides positive feedback to entrepreneurship educators, indicating some achievements in

cultivating students' entrepreneurial competence.

Zhang Xie & Meng (2022) pointed out in their research that one of the important reasons leading to this result is the comprehensive design of entrepreneurship education. If entrepreneurship education courses are comprehensively designed and adequately cover model construction, understanding industry trends, profitability analysis, experimenting with new ideas, etc., students have more opportunities to engage and cultivate these entrepreneurial core competencies. Educators have considered students' comprehensive development needs in course settings, practical project designs, and provided diverse and in-depth learning experiences, enabling students to receive corresponding training and exercise in various aspects. This comprehensive entrepreneurship education design helps students form a systematic entrepreneurial competence, resulting in relatively balanced scores in the overall assessment.

Liu (2022) highlighted in their research that participants' focus on students' comprehensive development is also one of the reasons for this result. If participants emphasize fostering students' innovative spirit, practical problem-solving abilities, and comprehensive entrepreneurial skills in entrepreneurship education, they will more comprehensively consider students' performance in evaluating entrepreneurial competence. This holistic focus leads to recognition of students in areas such as model construction, understanding industry trends, profitability analysis, and experimenting with new ideas. Participants believe that entrepreneurs need comprehensive abilities in multiple areas, not just limited to specific professional skills. Therefore, their attitude towards students demonstrating entrepreneurial potential in various aspects is more positive.

Li (2022) pointed out in their research that the generation of this result is influenced by both the comprehensive design of entrepreneurship education and the participants' focus on students' comprehensive development. This positive evaluation suggests that entrepreneurship education has achieved certain effectiveness in enhancing students' entrepreneurial competence. It also provides some recommendations for future entrepreneurship education, including a more comprehensive focus on students' overall development and an emphasis on cultivating problem-solving skills and innovative abilities.

7. Conclusion

Based on the indicating findings, the following conclusions were drawn from the results of the study:

1. The survey reveals that students demonstrate a positive attitude in areas such as literary awareness, creativity, and problem-solving abilities, indicating a strong potential for innovation and entrepreneurship. However, for a more accurate assessment of students' innovative behavior and entrepreneurial capabilities, it is essential to employ more specific assessment methods and conduct multi-perspective observations. Such assessment methods contribute to a deeper understanding of how students apply these abilities in practical contexts, enabling a more comprehensive evaluation of their innovation and entrepreneurial potential.

2. Findings from the survey regarding gender show slight differences, with males scoring slightly higher in literary awareness, while females exhibit slightly higher scores in creativity and problem-solving abilities. However, these differences are not significant, suggesting that gender may not

be a primary factor influencing innovative behavior and entrepreneurial capabilities. Regarding age and grade levels, although some differences exist in students' innovation and entrepreneurial abilities at different stages, these differences are generally not pronounced, indicating that students' innovation and entrepreneurial capabilities gradually develop to some extent, not solely determined by gender, age, or grade.

3. The survey findings indicate a correlation between different aspects of innovative behavior, such as literary awareness, creativity, and problem-solving abilities. Particularly, a closer association is observed in creativity and problem-solving abilities, suggesting that students' performance in these aspects is not isolated but interconnected. Therefore, in educational practices, a comprehensive approach to cultivating various capabilities is recommended, fostering students' overall innovative potential. This comprehensive cultivation involves employing diverse teaching methods, providing students with more practical opportunities, and creating an environment that encourages free expression and challenges in thinking, thereby better stimulating and developing students' innovation and entrepreneurial potential.

8. Recommendations

Based on the results, the researcher provides the following suggestion:

1. Utilize Diverse Assessment Methods and Perspectives: To more accurately assess students' innovative behavior and entrepreneurial capabilities, educators are advised to employ diverse assessment methods and perspectives. In addition to quantitative data, a combination of qualitative observations, case analyses, and performances in real-world contexts can provide a more comprehensive and in-depth understanding. This will assist in precisely identifying students' innovative potential, enabling targeted training and guidance.

2. Emphasize Interdisciplinary Comprehensive Cultivation: Considering the correlation between various aspects of innovative behavior, it is recommended to emphasize interdisciplinary comprehensive cultivation in teaching practices. By integrating literary awareness, creativity, and problem-solving abilities, educators can create more meaningful learning experiences. Project-based tasks can be designed to encourage students to apply multifaceted skills to real-world problems, fostering their innovative thinking and entrepreneurial potential.

3. Create an Environment Encouraging Expression and Challenge: To promote students' innovative potential, it is advisable to create an environment that encourages expression and challenge. Educators can employ open discussions, collaborative projects, and other methods to guide students in freely expressing their viewpoints and challenging traditional thinking. Timely feedback and encouragement will contribute to developing students' critical thinking and innovative spirit. Through these recommendations, educators can better guide students in developing innovative behavior and entrepreneurial capabilities, laying a solid foundation for their future career development.

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