

# *Assessment of Innovation and Entrepreneurship Education in Universities in Shandong, China*

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**Abstract:** In a global emphasis on innovation and entrepreneurship education (IEE), China attaches great importance to IEE. Shandong province being a major education province is the front liner for these endeavors. With many areas for improvement in IEE, this study aimed to assess the implementation of IEE in universities in Shandong. This study utilized the descriptive-correlational research design. The main data gathering tool in this study was the questionnaire devised by the researcher. The data were treated with weighted mean, T-test, F-test and Pearson Product Moment Correlation Coefficient. Results reveal that the level of IEE and entrepreneurial behavior are above standard. Among the six indicators of IEE, student initiative and for entrepreneurial behavior, entrepreneurial intention got the lowest. Gender and subject used in the study as profile variables contributed significantly to the said assessment. Finally, on a greater extent, the six indicators of IEE and the three indicators of entrepreneurial behavior of the respondents are inseparable in nature, as the level of IEE increases, the level of entrepreneurial behavior increases.

## **1. The First Problem of This Study Dealt with the Level of IEE According to the Indicators of Students' Initiative, Teaching Staff, Theoretical Curriculum System, Practice System, Entrepreneurial Climate and Support System**

Among the six indicators of IEE, the level of teaching staff is the highest, ranking at the “excellent” level. Although other indicators are at a “Good” level, they are also different.

The lowest level of the six indicators of IEE is student initiative, which reflects the relatively weak initiative of students to participate in IEE. These results are in consensus with Zhao (2019) idea that all universities attach great importance to IEE, or set up IEE centers, or have full-time and

part-time teachers, or develop IEE courses, create student practice platforms, etc., but many college students lack the driving force for active participation in IEE.

Compared to participating in entrepreneurship competitions, entrepreneurship skills training and simulation exercises, students are more willing to take the initiative to participate in entrepreneurship courses. The reason why students are more willing to take part in entrepreneurship courses is that participating in entrepreneurship competitions, entrepreneurship skills training and simulation exercises requires students to spend more time and energy. The main reason for students' lack of learning initiative is that the goals of IEE are vague and the evaluation methods are single. This is corroborated by Qiu and Zhao (2015) who found out in their study that the ultimate goal of college students' IEE is to promote the subjective development of students, but the biggest problem currently is that in the process of IEE, students Subjectivity cannot be brought into full play. The study emphasized that the main reasons are that the school's educational positioning is not clear, there are misunderstandings in educational concepts, and the single evaluation method and educational model inhibit the subjective development of college students.

Among the six indicators of EE, the level of teachers is the highest, ranking at the excellent level. Teachers have high teaching ability, teachers are full of enthusiasm for IEE, teachers have sufficient lesson preparation, and can better grasp teaching methods and theoretical and practical knowledge.

This is because the government and schools attach great importance to the training of entrepreneurial teachers. The government and schools invest a lot of time and energy in training teachers. Such as In May 2015, The General Office of the State Council of China issued the "Implementation opinions on deepening IEE reform in institutions of higher learning" (State Council of China, 2015), which clearly required the following: Entrepreneurship education and employment guidance teachers. Establish a team of part-time teachers composed of well-known scientists, entrepreneurial successors, entrepreneurs, venture capitalists and other talents from all walks of life. Form a national talent pool of 10,000 outstanding entrepreneurial mentors, and establish a full-time and part-time innovative entrepreneurship teacher team with reasonable knowledge structure and rich entrepreneurial practice.

In November 2018, China Ministry of Education issued a "Do a good job in the class of 2019 national ordinary university graduates employment entrepreneurship work notice" (China Ministry of Education, 2018), the file further states that "To establish college graduate employment Entrepreneurship instructor training mechanism, professional training is encouraged, and instructors are encouraged to work in industry companies. Regular employment training of counselors, head teachers and other employment staff is required to comprehensively improve policy level and work capacity".

Students are more satisfied with compulsory and elective courses than with entrepreneurial lectures and entrepreneurial salons. This is because that the office of the Chinese ministry of education in 2012 issued ordinary undergraduate course school IEE teaching basic requirements documents (China Ministry of Education, 2012). Entrepreneurship courses shall be incorporated into the school teaching plan, with no less than 32 class hours and no less than 2 credits.

The level of practice system in the indicators of IEE is relatively weak. Students have more opportunities to participate in on-campus training and entrepreneurship competitions than off-campus training and entrepreneurship projects in incubation bases. Moreover, Wei (2017) had a survey of the satisfaction of 682 students in the entrepreneurial practice system. He found out that 84.9% of the respondents were satisfied with the campus teaching facilities and training bases, and 69.6% of the respondents were satisfied with the entrepreneurial parks and incubation bases.

School leaders attach great importance to IEE, but the overall entrepreneurial atmosphere is not strong enough. This is also in parallel with the affirmation of Gao (2007). He believes that one of the main reasons restricting the development of IEE in China's universities is that the atmosphere of

college students' entrepreneurship needs to be improved. Sun and Xie (2011) also believe that the main problems of IEE are relatively lagging educational concepts, low social recognition, inaccurate goal positioning, and a relatively lack of IEE environment.

Students are more satisfied with relevant policy support and entrepreneurship guidance. Satisfaction with funding support and entrepreneurial management systems is relatively low compared to entrepreneurial guidance and policy support. These results are in consensus with Zhao (2019) that surveyed eight universities, only one has an independent entrepreneurial department, and only one has an entrepreneurial student group. At the same time, the proportion of respondents who are satisfied with financial support is 13.5%, and the proportion of respondents who are satisfied with policy support is 35%. It can be seen that there are general deficiencies in the innovation and entrepreneurship management institutions of various schools, the entrepreneurial management system is relatively lacking, and the funding support is relatively insufficient.

## **2. The Second Problem of This Study Dealt With the Level of Entrepreneurial Behavior According to the Indicators of Entrepreneurial Competence, Entrepreneurial Self-Efficacy and Entrepreneurial Intension**

Among the indicators of entrepreneurial behavior, the level of entrepreneurial intention is the lowest, and the level of entrepreneurial competence and entrepreneurial self-efficacy are similar.

Students are willing to invest time and energy in preparing for entrepreneurship, but their intention to let parents prepare venture capital for them within the past years is relatively weak. This is because Chinese culture inhibits the development of entrepreneurial spirit and entrepreneurial consciousness, and has caused misunderstandings about innovation and entrepreneurship by families and society. These results are in consensus with Zhu (2018), he believes that many parents believe that job stability is the most important. This value concept makes many college students prefer to take the civil service exam very hard rather than start a business.

## **3. The Third Problem of This Study Dealt with Difference on the Level of Entrepreneurial Behavior According to Profile Variables**

There is significant difference on the level of entrepreneurial behavior according to gender. Specifically, the level of entrepreneurial competence, entrepreneurial self-efficacy and entrepreneurial intension of male students are higher than female students.

Many studies have also found that men are more likely than women to start a business. The entrepreneurial intention of men is higher than that of women (Gupt, 2009, McMullen, 2006&Zhao, 2015).

Another study found that men are more likely to start a business than women. On the one hand, women themselves do not agree with entrepreneurship, believing that entrepreneurship is the dominant field of men (Wenliang, 2010). This is also in parallel with the affirmation of (Lühje, 2003) shown that women's attitude towards entrepreneurship obviously not as active as men and women of the venture, with a negative attitude is more likely to choose a stable staff work.

On the other hand, women have lower entrepreneurial self-efficacy and tend to avoid starting a business because they lack the necessary ability, and they have a higher fear of failure than men (Wincent, Ortqvist, 2009).

There is no significant difference on the level of entrepreneurial behavior according to place of birth. This is different from the results of other studies. (Ma, 2015) found out that the background difference of college students leads to the difference in their cognition of the entrepreneurial environment, their attitude and inclination. This is because the background of the respondent

includes factors such as the size of the city of birth, the occupation of the parents, and the economic development of the province where the birth was located.

There is significant difference on the level of entrepreneurial behavior according to subject. Specifically, students in management, economics, engineering and science have higher levels of entrepreneurial behavior than students in education. Students of management have the highest level of entrepreneurial behavior. Moreover, (Xu, 2017) had a survey indicates that respondents in different professions have different entrepreneurial behaviors. According to the subjects of the respondents, the respondents' entrepreneurial intentions, entrepreneurial capabilities and entrepreneurial self-efficacy differ significantly. Students in economics and management score higher than students in other disciplines. These results are in consensus with Zhu (2018) that multiple comparisons of individual entrepreneurial intentions of college students in different disciplines by LSD method show that medical students' entrepreneurial intentions are significantly lower than those of management and science subject s.

#### **4. The Fourth Problem of This Study Was to Find Out The Relationship Between Levels of IEE and Entrepreneurial Behavior**

The six indicators of IEE can be divided into two aspects: personal factors and school factors. Personal factors refer to student initiative. School factors include the other five aspects.

The influence of IEE on entrepreneurial behavior was verified from two aspects of individual attitude factors and college teaching factors. Research shows that IEE has a positive and significant impact on entrepreneurial behavior, which is mainly reflected in personal factors and college factors.

Specifically, first, the more positive the personal factor's attitude towards IEE, the more active learning and the stronger the learning ability, the more likely to implement entrepreneurial behavior; Second, the better the quality of IEE in schools, the more reasonable the curriculum, the richer the teaching resources, the better the teaching staff, the more important the school leaders, and the richer the practice platform, the more likely to promote student entrepreneurship.

As the level of IEE increases, the level of entrepreneurial competence increases. This implication mainly upholds the claim of Solesvik (2013) believes that entrepreneurial training and entrepreneurial competence have a significant impact on improving entrepreneurial intentions, and that entrepreneurial ability can be significantly improved in entrepreneurial training.

As the level of IEE increases, the level of entrepreneurial self-efficacy increases. This is corroborated by (Jing, 2010; Wang, 2012) who proposed that the entrepreneurial self-efficacy of college students should be improved from multiple aspects of IEE. This is also in parallel with the affirmation of (Wang, 2012; Zhang, 2013; Zhao 2015) both believe that IEE and entrepreneurial self-efficacy are also significantly positively correlated, which indicates that IEE can increase college students' entrepreneurial self-efficacy.

As the level of IEE increases, the level of entrepreneurial intention increases. This is corroborated by (Lifian, 2004) who proposed that the most basic purpose of IEE is intention education so that they may want to consider self-employment. This is also in parallel with the affirmation of (Dehghanpour, 2013), when individuals complete a set of entrepreneurship courses, their entrepreneurial intention may increase 1.3 times. Wu (2016) also believes that a high-level, high-quality, innovative education model can effectively improve the comprehensive quality of college students and stimulate their innovative intention.

As the level of IEE increases, the level of entrepreneurial behavior increases. This is also in parallel with the affirmation of (Wang, 2003; Ding, 2009). Entrepreneurs with good education and training are necessary guarantees for successful entrepreneurship. Shi (2012) also believes that

schools should use professional education and effective combination of IEE, build an entrepreneurial platform for students, and help students truly realize entrepreneurial behavior after school or graduation.

## 5. Strengths and Weaknesses

This study is supported by three theories, including Planned Behavior Theory, Ternary Interaction Theory, and Self-efficacy Theory. This research aimed to assess the implementation of entrepreneurship education and find out the differences between the levels of entrepreneurial behavior along gender, birth of place and subject in the six universities in Shandong, China. Then find out the relationship between IEE and entrepreneurial behavior. The conclusions of this study provide specific suggestions for improving the entrepreneurship education in universities in Shandong Province.

Due to the limitations of research conditions, research time and researchers' research ability, there are still many weaknesses in this paper. The theoretical analysis of entrepreneurship education is weak and not deep enough. The design of the questionnaire is not comprehensive. The scope of research is limited. This study is only a preliminary exploration, there may be many shortcomings or even errors, please criticize and correct. The researchers will also think further in the future work and study, and hope that more scholars will pay attention to this issue and make further exploration and research.

## 6. Generalizability and Contributions

The results of this study can provide students' initiative, entrepreneurship education teachers team construction, entrepreneurship education theory course, entrepreneurship education practice system, entrepreneurial climate and entrepreneurial support, provide a more scientific and objective reference, so as to improve the students' ability of entrepreneurship, entrepreneurial self-efficacy and entrepreneurial intention, and ultimately improve the entrepreneurial behavior. The findings of this study can provide valuable Suggestions for promoting entrepreneurship education.

The results of the study will benefit different stakeholders which primarily includes the teachers and students who are direct beneficiary of the improved entrepreneurship education. Likewise, university leaders will benefit because the findings can be used to help their teachers improve their entrepreneurship education and thus their students' entrepreneurial behavior. In a larger scale, the success of students' entrepreneurship will effectively ease the employment pressure, which is very beneficial to the country and families.

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