

## *Retraction*

# **Retracted: The Development Dilemma and Path Choice of Innovation and Entrepreneurship Education Based on Game Theory**

### **Advances in Multimedia**

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This article has been retracted by Hindawi, as publisher, following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of systematic manipulation of the publication and peer-review process. We cannot, therefore, vouch for the reliability or integrity of this article.

Please note that this notice is intended solely to alert readers that the peer-review process of this article has been compromised.

Wiley and Hindawi regret that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

### **References**

- [1] H. Zhu and Q. Wang, "The Development Dilemma and Path Choice of Innovation and Entrepreneurship Education Based on Game Theory," *Advances in Multimedia*, vol. 2022, Article ID 2232253, 11 pages, 2022.

## Research Article

# The Development Dilemma and Path Choice of Innovation and Entrepreneurship Education Based on Game Theory

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Innovation and entrepreneurship education (IEE) is a powerful driving force to promote the transformation and development of college education and an effective way to broaden the employment channels. However, IEE has been used to train students in classrooms by college managers who do not systematically think of practical training for innovation and entrepreneurship talents. There are still many difficulties in the process of development of IEE that managers cannot ignore. The relevant models that could deeply analyze the connotation of IEE were established through the game theory that explained the game balance among government, universities, and students in the IEE process. A game theory model explained the external game behavior of universities and students and the internal game behavior between students. Another model analyzed the strategies of players pursuing maximum payoffs from the perspective of both sides of the game and the influences of these strategies on the players. The problems in the process of IEE development are concluded including imperfect management system, unscientific curriculum design, nonideal talent training and unprofessional teachers. Based on it, the development path of IEE is explored through the game concept. A scientific and leading system of management and evaluation is needed to put forward by strengthening the top-level design at the national level, and a win-win game situation between colleges and students will be achieved by the optimized education system.

## 1. Introduction

In the era of the knowledge economy, talent, science, and technology are essential factors that promote the development of society, economy, and culture efficiently, steadily, and sustainably. It has become a widely concerned classroom in education departments of various countries, which IEE could promote the cultivation of innovative talents and inspire science technology research and development and application. Thus, many countries have gradually put forward the call for innovation and entrepreneurship from the national level, in order to realize the transformation and development of vocational education, and the improvement of student's employability [1]. The innovation and entrepreneurship combine the innovation power based on practice and the action power of practical ideas, which is not only in line with the practical requirements of national

development but also is of great benefit to improving the creativity of domestic enterprises and improving the country's international status and other aspects. The quality of IEE is related to the success or failure of the national strategy, and as the main base of cultivating higher talents, colleges and universities undertake the important task of cultivating innovative and entrepreneurial talents. Compared with traditional vocational education [2], the ability to cope with complex social environments of students, which including logical thinking skills, knowledge skills, teamwork skills, interpersonal skills, and communication skills, and completes a series of tasks according to the needs of employers, is more comprehensively improved by IEE. This is the key point for contemporary college students to adapt to the industrial development and improve their social adaptability. When the concept of mass entrepreneurship and innovation ("double innovation") was put forward [3],

it not only promotes the reform in various fields of society but also points out a new direction for the reconstruction of the vocational education system. It can give full play to the synergistic role of innovation and entrepreneurship teaching mechanism and improve the effective allocation of teaching resources by accelerating the reform of IEE, and also inject new ideas into promoting the all-round development of students. It is great significance to carry out IEE for college students to promote the entrepreneurship education in colleges and universities into a new and more comprehensive educational development track, to help college students explore their personal potential and realize their life value in the theoretical and practical level.

It is widely believed internationally that IEE in universities originated in 1947, new enterprise management opened by Myles was regarded as the first course of IEE in universities. In 1998, the UNESCO World Conference recognized the value of IEE for higher vocational education and advocated the importance of fostering entrepreneurship in higher education [4]. In recent years, with the development and popularization of higher education, college students have become an important entrepreneurial group, along with the entrepreneurial boom brought about by a series of policies of “double innovation”. Under the guidance of education management departments, an education model used to widely carry out IEE work, with ideological and political teachers and counselors as the core thrust is put forward in colleges and universities and has made certain achievements. But in the face of the current severe employment situation, the government, universities, and social enterprises only consider their own interests, resulting in the lack of practical policy formulation and the deviation of policy implementation; it is difficult to form an overall joint force to promote innovation and entrepreneurship education [5]. According to the game theory [6], the behavior strategies of the participants can be analyzed. Some universities are still limited to the narrow concept of entrepreneurship education, limit the outcomes of entrepreneurship education to the level of real benefits, and simply understand “entrepreneurship” as opening companies and running enterprises [7]. While, students are forced to accept this utilitarian concept and pursuit when receiving training, it may not only resist to the innovation and entrepreneurship behavior of students psychologically but also cause a negative attitude of excessively catering to the market when students thinking about entrepreneurial ideas [8]. Compared with the quality level of traditional entrepreneurship, the quality of talents in the field of innovation and entrepreneurship is still insufficient [9]. It is difficult for innovation and entrepreneurship classroom to have a strong cultural atmosphere, because most teachers take innovation and entrepreneurship teaching as part-time jobs, and indirectly causes the overall teaching situation cannot be effectively improved. Students cannot resonate with the innovative spirit in the entrepreneurship class consequent the innovation, and entrepreneurship system is still not perfect to cultivate students’ entrepreneurial spirit [10–11]. Simultaneously, the immature education system is difficult to directly help the graduates’ employment, which is an important reason why the students cannot be really interested in innovation and entrepreneurship class.

Therefore, the current difficulties in the IEE activities seriously affect the entrepreneurship education driven by innovation. Although the school realizes that the content of innovative education and entrepreneurship education is deeply integrated by each other, it becomes a mere formality in the specific implementation process, resulting in the actual teaching activities that cannot meet the social knowledge need of students themselves [12]. The actual implementation of IEE is still faced with great practical difficulties, which restricts the reform process of IEE institutions. At the same time, these difficulties limit further development of individuals and entrepreneurial enterprises, and ultimately the transformation of a country from technology-following to technology-innovative restricted [13]. The higher education institutions, as an important base of “double innovation” talent training, should deeply analyze and explore the current problems and truly establish a new model which fits to growth and learning of the college students and social actual demands, thus better promoting the development of innovation entrepreneurship. The government, universities, and students are the implementation subject of this educational activity. To realize the reform of higher education in IEE, we must recognize the balance between the three.

This research consists of 5 parts and analyzes the game decision and balance among the participants of the governments, schools, teachers, and students by using the game theory model. Meanwhile, it dissects existing difficulties of IEE and puts forward the methods to solve the dilemma. Section 1 introduces the importance and existing difficulties of IEE as well as the significance of in-depth analysis of the difficulties of innovation and entrepreneurship education. Section 2 explains the classic game theory model and the feasibility of using game theory to analyze the game equilibrium in innovation and entrepreneurship education. A multiparty game model for participating in IEE is established, and the causes of IEE dilemma are deeply analyzed in Section 3. Section 4 explores the development path of innovation and entrepreneurship education. Section 5 summarizes the realistic development strategies of IEE.

## 2. Related Work

The game theory is a theory of strategic interactions, the most important essential elements of a game include player, strategies, and payoff. It is a theory of rational behavior in a social situation, in which each player’s choice of his own behavior must be based on his judgment of how the other players will react [14]. Traditional game theory defines players as rational agent through rational assumptions, which act in order to maximize the self-payoff. The basic feature of the game is that the payoff of each player in the game depends not only on the strategy he chooses but also on the strategy chosen by all other players [15]. The information obtained by the game player and the understanding of the game rules constructed from this determine the subjective optimal decision choice of the game manager. Game theory is a theory that studies the conflict competition, strategy selection, and decision confrontation between the

parties, which mainly discusses the conflicting power compromise and checks and balances of the parties. From the perspective of game theory, it is not difficult to find the conflict of interest and game between governments, schools, and students behind IEE. Through the in-depth analysis of the difficulties of government, schools, and students, it can provide reference and suggestions for the breakthrough path of the dilemma of innovation and entrepreneurship education. The governments, schools, and students will be trapped in the typical prisoner's dilemma when making innovative and entrepreneurial decision behaviors. Some research proposed a popularly analytical model for the repetitive prisoner's dilemma, and emphasized that a player can unilaterally ask for an unfair payoff in the process. But it will increase the negative participation of the other two players when one player pays much attention to get such unbalanced payoffs, and the game will be stable in the Nash equilibrium at last [16–17]. In essence, the reason for the insufficient implementation of IEE is the game between the governments, schools, teachers, and students [18]. Zhu et al. [19] have explored the interaction between entrepreneurial intention and entrepreneurial behavior of the player and the influence of IEE on the sustainability of entrepreneurship. Li et al. [20] believed that teaching strategy of colleges and universities is directly determines teachers' behavior in ideological teaching and closely related to students' innovation and entrepreneurship spirit. The educational and cultural environment will affect students' mental health and enthusiasm. Ilonen [21] explained the role and responsibilities of educators in teaching innovation and entrepreneurship, and summarized their ways to shape a quality educational environment in the course of teaching activities. From the perspective of society, the environment in the entrepreneurship education ecosystem should be the overall of the whole society including politics environment, public opinion environment, economic environment, cultural environment, science and technology environment, etc. [22–23] Therefore, the components of the innovative talent training environment are the result of multiparticipation. If we want to optimize this environment, we must involve games at multiple levels. The entrepreneurial talents are cultivated by the “trinity” of entrepreneurship education ecosystem of school, government, and society [24]. The universities act as producers, the schools unite enterprises or the governments as decompositions with the practice platform built, and the social-economic organizations and the enterprises act as consumers. The fundamental task of government development is to create interests for the masses and pursue social, cultural, and economic values. The fundamental task of a university is to cultivate talents and pursue academic and social influence. The fundamental appeal of students is to obtain professional knowledge and technical skills, and the basic pursuit is to obtain the graduation certificate and achieve employment. The pursuit of government, universities, and students is not exactly the same, in line with the premise of game analysis. Therefore, the strategy and attitude of IEE among the government, universities, and students could be analyzed by the game theory model, which is conducive to finding the path to breaking dilemmas.

### 3. The Game Analysis on the Development Difficulties of Innovation and Entrepreneurship Education

IEE is an important means to create the situation of “mass entrepreneurship and innovation”, which is of great significance to the development of a country's new economy. Figure 1 shows the annual number of documents related to “Innovation and entrepreneurship education” in the web of science database in the past 13 years, which shows that the overall number of literatures is on the rise, and scholars pay more and more attention to the research on innovation and entrepreneurship education.

However, there are still some problems that cannot be ignored in IEE in colleges and universities, which are generally manifested in the dilemma of government support, university running, and personal practice. The essence of IEE management is the interactive behavior between the universities and the students to seek the optimal and rational decision-making under certain rules, and the colleges are collections of a series of contracts. In fact, the interest demands of the college students are characterized by self-centered tendency and uncertainty, while the universities themselves also have utilitarian interest demands. Therefore, both sides are easy to fall into the “prisoner's dilemma” when pursuing the profit maximization. In IEE area, the introduction of game theory can further integrate the forces of various aspects, optimize the mechanisms of education, management and service, and enhance students' awareness of innovation. For most universities, their training objects and objectives are both special and adjustable. From the perspective of game theory, students can be promoted to better participate in IEE through more effective mechanism design. As the subject of policy implementation, the enthusiasm of universities to join IEE will be driven by favorable policy support, abundant resource supply, and good social benefits.

*3.1. The Dilemma of Government.* Although the governments in many countries attach great importance to the development of IEE, under the condition of the tripartite game, the actual implementation of the policy has not fully achieved the ideal benefits. Figure 2 shows the annual number of Chinese policy documents on “innovation and entrepreneurship” that have been published on the Chinese government website over the past decade [25]. It is not difficult to see that China entered the climax of innovation and entrepreneurship in 2016 and 2015 and has tended to be in a relatively stable state in the following years, and the number of relevant documents is much higher than the level of the early two years. This is a process of top-level design shifting from quantity growth to comprehensive quality improvement, which involves the game between government, universities and students, and finally achieves a Nash equilibrium in the mixed strategy. In the process of this game, the government as the advocate is usually in a positive attitude, while universities and students can take positive or negative attitudes according to the actual situation.

As an important player leading the game process, series of strategies of government could solve the employment of

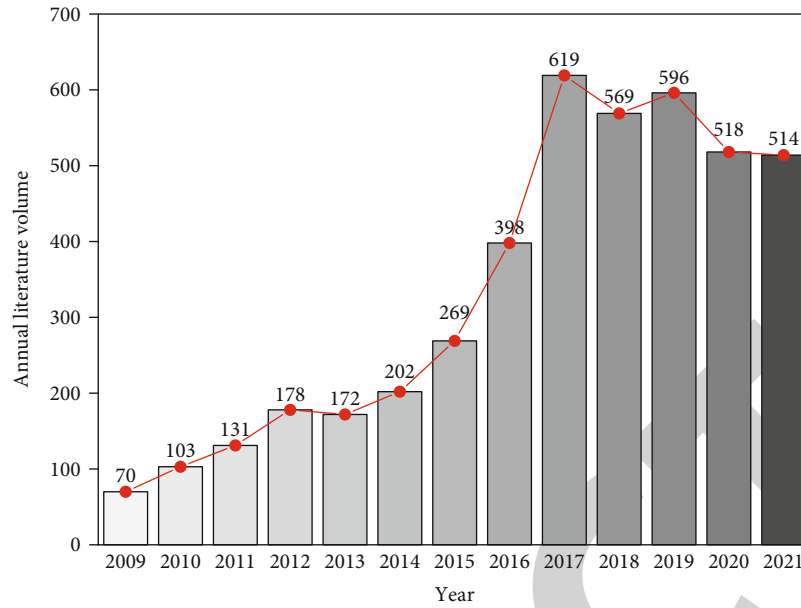


FIGURE 1: The annual literature volume about “Innovation and entrepreneurship education” at the web of science database from 2009 to 2021.

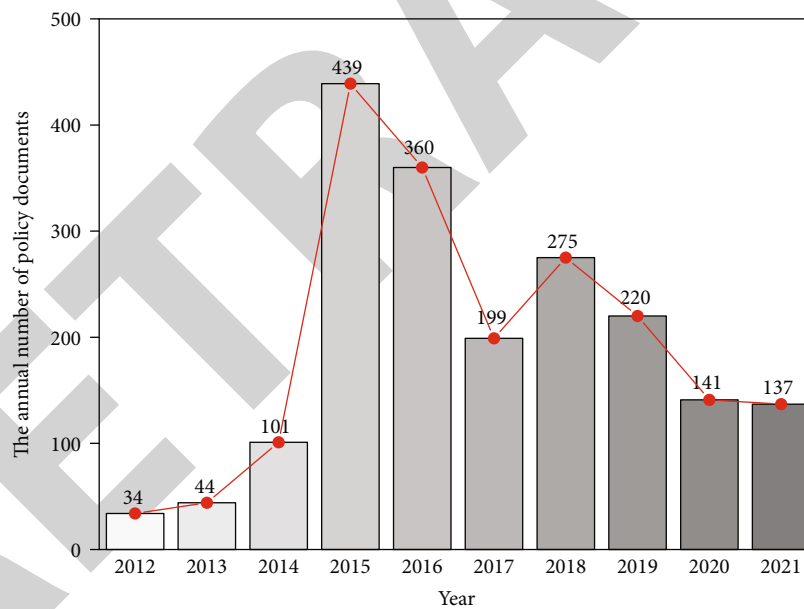


FIGURE 2: The annual number of policy documents about “innovation and entrepreneurship” in the Chinese government official website from 2012 to 2021.

graduates, promote the energy of national innovation, and gain the growth of comprehensive economy. But, the domestic “double innovation” education is too much dependence on the traditional form of entrepreneurship at present; most of the universities tend to the cultivation of entrepreneurial ability incentive; the students always focus on create the small enterprises that just rely on “self-employment” and “self-livelihood”, and few students choose to use an existing platform to “incubate” their initial idea before putting it into

production at scale. The immature entrepreneurial “incubation” process makes it difficult for students to realize their initial ideas and turn to seek the direction of excessive market-oriented thinking so that the original model of the framework eventually deform or even ends in the embryonic stage. The students are forced to accept this utilitarian concept and pursuit when receiving training, which not only may have psychological resistance to innovation and entrepreneurship but also may appear excessive negative attitude



of catering to the market when thinking of entrepreneurial ideas. In the practice stage of innovation and entrepreneurship, if students pursue too much of realistic payoffs, their innovative thinking will be unconsciously affected. Such a strategy will reduce the recognition of “mass entrepreneurship and innovation” education and even the entire industry among new industry practitioners. Therefore, one of the reasons why most students are unwilling to actively contact the “innovation and entrepreneurship” industry is that the domestic “mass entrepreneurship and innovation” education has not really put innovation and entrepreneurship to an appropriate height, and the educational concept is still biased. While, the passive learning habits formed in the basic education stage lead to their lack of independent learning ability in higher education and their weak learning awareness of innovation and entrepreneurship. In all levels of education, teachers mostly adopt the traditional way of exam-oriented education to pursue test scores, but ignore the original creativity and teamwork ability of students. Teachers become the authority in the classroom; books become the “truth” of students, and students lack the ability of self-thinking and self-innovation. All of these show that the establishment of the overall IEE system is not perfect, makes it difficult for the government’s strategy to achieve a satisfactory result in the implementation process, and further dispel the enthusiasm of universities and students to form a vicious circle that is not conducive to the development of IEE.

**3.2. The Dilemma of Universities and Colleges.** As the main body in the implementation process of IEE, colleges and universities build a professional incubation environment with the help of the material and policy resources given by the government. And they need to provide dedicated administrators, teaching staff, and venues, and enable the transition from professional education to entrepreneurship education. Figure 3 shows the equilibrium of strictly dominant strategies between government, universities, and students based on the game of boxed pigs model. In the context of government support, in addition to taking a positive cooperation attitude, universities, like a big pig in the box, can also choose negative strategies. That is, not to participate in or slowly participate in the role transformation, and only to provide students with a lack of entrepreneurial education resources. And the students, like a small pig in the box, can also choose to have positive or negative attitudes to participate in innovation and entrepreneurship. The active students can work with universities to achieve the purpose of entrepreneurship, and they can also get entrepreneurial payoffs through social resources and self-employment if the school adopts a negative strategic attitude. However, students lack sufficient entrepreneurial experience and management experience, and their innovative ideas may not adapt to the social environment and obtain the ideal entrepreneurial payoffs. The risk of adopting the strategy of cooperating directly with the society to start businesses is higher than that of starting businesses through universities, which may lead to entrepreneurial failure. The two sides of the game are universities and students. Universities not only cover colleges, administrators and counselors but also include the

educational factors imposed by various systems, rules, and activities. The interests of universities are to educate students and create atmosphere to cultivate higher quality talents, and students themselves want to achieve better through education. In this situation, universities have two choices of encouraging and not encouraging innovation and entrepreneurship education, while students have two choices of participate and not participate in innovation and entrepreneurship education.

To simplify the problem, we can make the following assumptions:

*Hypothesis 1.* Suppose that the university manager and student are the rational agent of expects the best benefit.

*Hypothesis 2.* Suppose that the probability of university managers encouraging IEE is  $p$ , and the probability of disapproval is  $1 - p$ ; the probability of students conducting IEE is  $q$ , and the probability of not conducting it is  $1 - q$ . (In actual implementation, these probabilities can be understood as the degree of choice between the two tendencies or the strength of implementation.)

*Hypothesis 3.* The cost of university manager for IEE is  $C$ . When university managers adopt a negative strategy and students choose active strategy, the managers can gain additional payoffs  $D_1$ , and when university managers adopt a positive strategy and students choose inactive strategy, it can cause additional losses  $D_2$ .

*Hypothesis 4.* When students meet the expectations of managers, the payoffs is  $K_1$ . The IEE always yields additional revenue  $K_2$ , whether it meets managers’ expectations or not. When university managers adopt a positive strategy but students choose inactive strategy, they face punishment  $K_3$ .

Figure 4 gives the game matrix grid between student and university; the expected benefit of the manager is  $U$ ; the expected benefit of the student is  $V$ .

$$U = -Cpq + (D_1 - C)(1 - p)q - (C + D_2)p(1 - q) - C(1 - p)(1 - q), \quad (1)$$

$$V = (K_1 + K_2)pq + K_2(1 - p)q - K_3p(1 - q) + K_1(1 - p)(1 - q). \quad (2)$$

Follow the principle of maximum expectation

$$\partial U / \partial p = \partial V / \partial q = 0. \quad (3)$$

Then,

$$\begin{cases} p = (K_1 - K_2) / (2K_1 + K_3), \\ q = D_2 / (D_2 - D_1 - 2C). \end{cases} \quad (4)$$

Therefore, the managers usually supply educational resources and forces students to participate in teaching activities, which will inhibit the vitality of self-learn. For managers, there is always a big difference between the

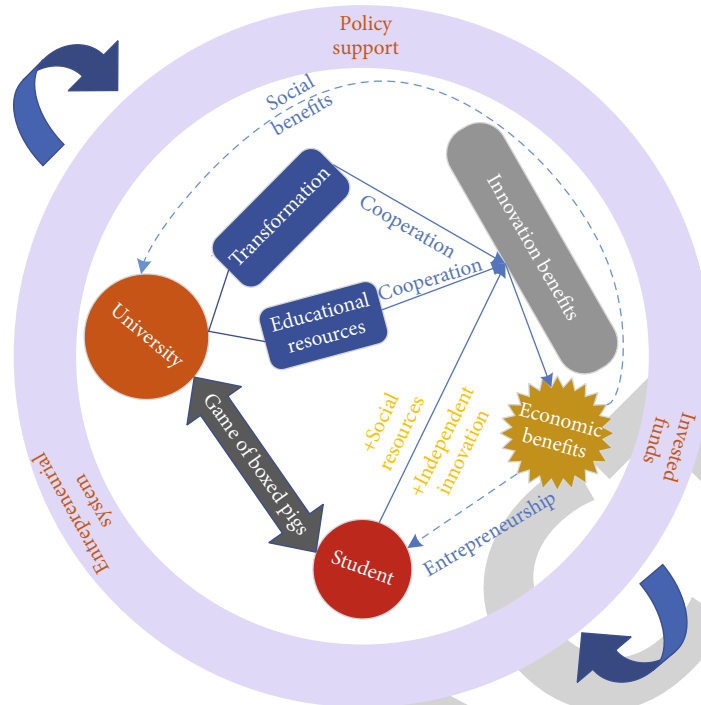


FIGURE 3: The equilibrium of strictly dominant strategies between government, universities and students based on the game theory.

		Student	
		Active	Inactive
University	Positive	$-C$ $K_1+K_2$	$-C-D_2$ $-K_3$
	Negative	$D_1-C$ $K_1+K_2$	$-C$ $K_1+K_2$

FIGURE 4: The game matrix grid between student and university.

traditional way of teaching students and giving incentives and the benefits of students' active participation in education, which also leads to the weakening of student participation in education. Specifically, the negative attitude of university administrators will lead to the lag in the construction of IEE curriculum system, teachers' lack of professional ability and teaching consciousness, and the insufficient supply of entrepreneurship practice platform. Figure 5 shows a survey regarding the quality of innovation and entrepreneurship courses in universities; 524 students were surveyed from four dimensions. Through the teaching content, teaching method, teaching condition, and teaching management, 4 indicators represented the implementation quality of edu-

catinal behavior. Teaching content is determined by the government and the college, which is the fundamental factor affecting the quality of teaching. The teaching method is mainly determined by the professionalism and academic ability of teachers. The teaching condition and teaching management are primarily determined by the administrators of the college, which are the essential embodiment of the level of educational resources that universities provide to IEE. According to the survey results, the course score in the actual teaching process was lower than the expected scores of school administrators on the teaching curriculum design, shows the difficulties of university administrators in curriculum design, teacher professional level, and platform supply.

3.3. *The Dilemma of Students and Entrepreneurship Practice.* Students are important audiences of IEE, and their fundamental desire is to complete studies. Figure 6 shows the results of a study on 1,223 students [26]; the vast majority of graduates prefer to choose entrance for further study, and IEE does not necessarily meet this demand; it has a great impact on the strategic choice of innovation and entrepreneurship courses. Of course, it also depends on the attitude of the government and universities. Students' personal subjective initiative and potential will be stimulated if universities and government attention to students' "performance", but it also can trigger competition among students, sometimes even at the expense of common interests. This game characteristic will further aggravate the "prisoner's dilemma" of students in sharing and helping each other. In the prisoner's dilemma, student 1 and student 2 can choose a strategy that both of them actively participate, one positive and the other negative, or both of them negative.

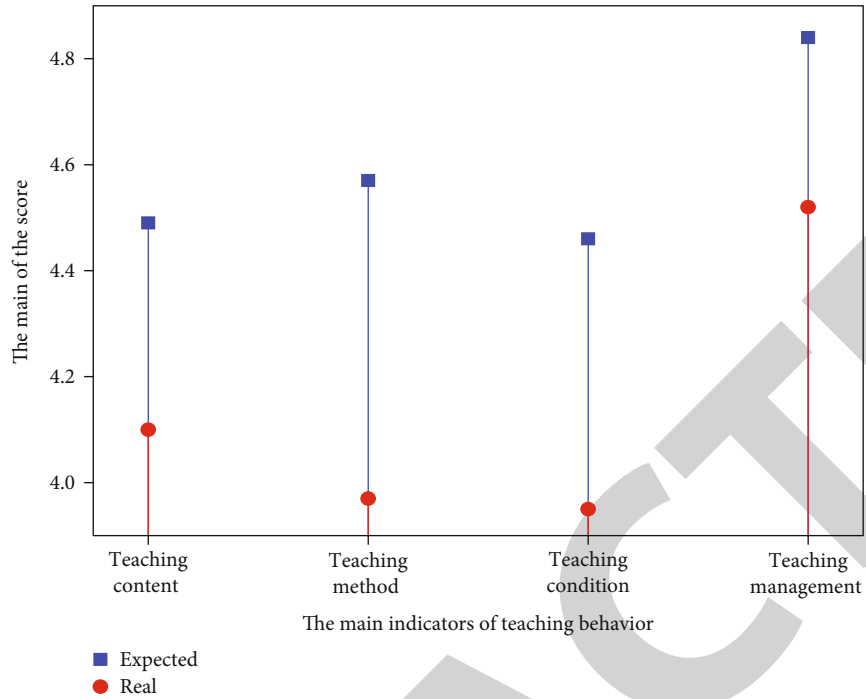


FIGURE 5: The score comparison between actual teaching behaviors and expected.

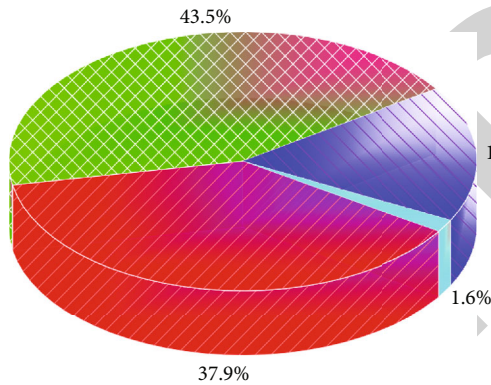


FIGURE 6: The choice of college graduates.

Therefore, in the internal student game, the players of the game are student 1 and student 2. We can make the following assumptions:

$$B_1 = P_1 + kS_{21} + T_1, \tag{5}$$

$$B_2 = P_2 + kS_{12} + T_2. \tag{6}$$

*Hypothesis 5.* Suppose that the student 1 and student 2 are the rational agent of expects the best benefit, and the game of the student 1 and student 2 have a symmetric structure.

*Hypothesis 6.* Suppose that the payoffs of student1 is  $B_1$ , affected by his individual efforts  $P_1$ , and the gain of student 2 was shared to student 1  $S_{21}$ , and the payoffs of student 2 is  $B_2$ .

The parameter  $k$  is the conversion efficiency of the shared result to the final output, reflecting the interdependence between the student 1 and student 2;  $T_1$  and  $T_2$  is an external interference term, following a normal distribution with a mean of 0 and a variance of  $\sigma$ .

*Hypothesis 7.* Suppose that the cost of student1 is  $C_1$ .

$$C_1 = r_1(P_1 + S_{21})/2. \tag{7}$$

Based on the above assumptions, the student's payoff function  $U_1$  is as follows:

$$U_1 = \alpha B_1 - C_1. \tag{8}$$

Follow the principle of maximum expectation

$$\partial U_1 / \partial p_1 = \partial V / \partial S_{21} = 0. \tag{9}$$

Then,

$$\begin{cases} p_1 = \alpha/r_1, \\ S_{21} = 0. \end{cases} \tag{10}$$

In the traditional game mode, although sharing can bring about common improvement, the optimal strategy to let students get the best benefits is not sharing due to the



conflict between individual rationality and collective rationality. In order to change this situation, we can try to link the students' payoffs to the collective payoffs while maintaining the above assumptions 1-3 to form a new payoff function  $U_2$ .

$$U'_1 = \alpha B_1 + \beta(B_1 + B_2) - C_1. \quad (11)$$

Now, the optimal solution is as follows (the same goes for the student 2):

$$\begin{cases} p_1 = (\alpha + \beta)/r_1, \\ S_{21} = \beta k/r_1. \end{cases} \quad (12)$$

That is, students can choose to share to get the maximum expectations. Figure 7 shows the game matrix grid between student 1 and student 2. Therefore, in the internal game among students, trying to motivate students collectively can change the traditional dilemma and promote students' tendency to share and help each other. The benefit parameters in Figure 6 are calculated as follows:

$$G_1 = [(\alpha + \beta)^2 + k^2 \beta^2]/2r_1 + [(\alpha + \beta)(k^2 + 1)\beta]/r_2 + (\alpha + \beta)T_1 + \beta T_2, \quad (13)$$

$$G_2 = [(\alpha + \beta)^2 + k^2 \beta^2]/2r_1 + (\alpha + \beta)\beta/r_2 + (\alpha + \beta)T_1 + \beta T_2, \quad (14)$$

$$G_3 = (\alpha + \beta)^2/2r_1 + [(\alpha + \beta)(k^2 + 1)\beta]/r_2 + (\alpha + \beta)T_1 + \beta T_2, \quad (15)$$

$$G_4 = (\alpha + \beta)^2/2r_1 + (\alpha + \beta)\beta/r_2, \quad (16)$$

$$Q_1 = [(\alpha + \beta)^2 + k^2 \beta^2]/2r_2 + [(\alpha + \beta)(k^2 + 1)\beta]/r_1 + (\alpha + \beta)T_2 + \beta T_1, \quad (17)$$

$$Q_2 = [(\alpha + \beta)^2 + k^2 \beta^2]/2r_2 + (\alpha + \beta)\beta/r_1 + (\alpha + \beta)T_2 + \beta T_1, \quad (18)$$

$$Q_3 = (\alpha + \beta)^2/2r_2 + [(\alpha + \beta)(k^2 + 1)\beta]/r_1 + (\alpha + \beta)T_2 + \beta T_1, \quad (19)$$

$$Q_4 = (\alpha + \beta)^2/2r_2 + (\alpha + \beta)\beta/r_1. \quad (20)$$

#### 4. The Analysis and Discussion of the Development Path of Innovation and Entrepreneurship Education

As a growing thing, IEE have problems that cannot be ignored in the development process, but these problems will definitely achieve application results under the common attention of all parties. Therefore, the government, colleges, and students must correctly treat problems and difficulties encountered during the exploration phase in IEE development.

		Student	
		Active	Inactive
University	Positive	-C	-C-D <sub>2</sub>
	Negative	K <sub>1</sub> +K <sub>2</sub>	-K <sub>3</sub>
		D <sub>1</sub> -C	-C
		K <sub>1</sub> +K <sub>2</sub>	K <sub>1</sub> +K <sub>2</sub>

FIGURE 7: The game matrix grid between student 1 and student 2.

**4.1. The Development Path of the Government.** The government can use a series of strategies in terms of institutional construction, evaluation system, departmental cooperation, and policies and regulations to strengthen the system construction of IEE. Firstly, the government should strengthen the system of education for innovation and entrepreneurship, and establish special entrepreneurship service agencies to provide convenient services such as financial services, entrepreneurship insurance, company registration, and so on for college students' innovation and entrepreneurship, so as to enhance the attraction to college students' innovation and entrepreneurship. Secondly, it is essential to establish a scientific and efficient evaluation system and strengthen the supervision of IEE in colleges and universities, thus improving the enthusiasm and initiative of colleges and universities which carries out innovation and entrepreneurship education as well as ensuring the effective implementation of relevant policies. Thirdly, to learn from relevant foreign experience is critical. For example, American college students can borrow directly through credit cards for innovation and entrepreneurship. At the same time, the American commercial insurance system also provides college students with the risk of innovation failure. We can also provide the corresponding policy guarantee for college students' innovation and entrepreneurship activities, so as to promote the development of innovation and entrepreneurship education. While, the governments could enhance cooperation to promote the development of IEE. Different government departments should form cooperation to provide timely help for colleges and universities to carry out IEE and improve work efficiency to help the development of IEE. A perfect cooperation system is conducive to reducing the procedure and approval process in students' entrepreneurial activities and eliminating repetitive work through policy communication to make the whole exercise more efficient.

**4.2. The Development Path of the Universities.** At present, the revolution in science, technology, industry, and education is accelerating. It is the only way for universities to carry out

IEE in combination with the great reform situation of innovation and entrepreneurship. Guided by the concept of connotative development, it is in line with the change and development strategic trend of innovation and entrepreneurship education. Therefore, universities and colleges should focus on the in-depth optimization of concept logic, curriculum system, teachers, practice platform, system, and mechanism, promote the leapfrog and in-depth development of innovation and entrepreneurship education, and deliver high-quality innovative and entrepreneurial talents with excellent quality and ability to the country and society.

The universities and colleges should create an ecological environment for IEE. The ecological systems theory proposed by Bronfenbrenner [27] points out that any individual is present in and affected by multilevel ecological environments, with no exception of innovation and entrepreneurship education. In order to realize the high-quality development of innovation and entrepreneurship education, we should create an educational ecological environment integrative that including the government, schools, enterprises, and individuals, strengthening the connection between various subjects, and playing a synergistic role. On the one hand, the connection between universities and the government should be strengthened. It is also the key to realize cooperation between schools and governments. On the other hand, connection between universities and enterprises could be enhanced and the innovative education incubation platform, which is the fundamental and significant factor of IEE, also established by the higher institutions, thus realizing school-enterprise cooperation.

In addition, colleges and universities also need to optimize the organizational system to ensure the efficient operation of IEE. Universities can establish an effective management system to ensure the regular operation of IEE, and stimulate teachers and students to participate in innovation and entrepreneurship through relevant incentive mechanisms.

Remodeling the concept of innovation and entrepreneurship education and optimizing the goal of talent training are the important paths to achieve the goal. Colleges and universities should constantly improve the talent training objectives according to the development requirements timely. It is critical to adjust the direction of talent training, change the original backward concept, and take the cultivation of innovative spirit and entrepreneurial ability as the main goal of students' training. Based on it, personalized talent training goals should be formulated, that is, to implement a cross-professional student training program, to realize the compound training of talents, and to incorporate innovative spirit, entrepreneurial consciousness, and innovative and entrepreneurial ability into the indicators to evaluate the quality of talent training. Let students see the hope of realizing employment in the IEE process and can provide themselves better ideas for career development planning and fundamentally enhance the enthusiasm of students.

Meanwhile, improve the construction of teachers for IEE is the foundation of connecting universities and students. On the one hand, it is essential to increase the number of teachers, thus forming a team including full-time and part-

time IEE teachers. A number of teachers from management, economics, and other disciplines related to IEE were selected to carry out innovation and entrepreneurship teaching. If conditions permit, some full-time teachers of IEE can also be selected to give lectures or conduct publicity activities outside the school to accumulate relevant experience. In addition, colleges and universities should also actively introduce some off-campus entrepreneurs and invite some entrepreneurs with rich experience to undertake IEE and teaching on campus. On the other hand, improve the quality of IEE teachers and realize the professional development of full-time teachers. In addition to having professional knowledge and developing theoretical knowledge teaching, full-time teachers should also have relatively rich practical experience. Therefore, colleges and universities can make full-time teachers undertake certain practical projects, guide students to carry out practical activities, or deeply explain their own projects in the way of theoretical knowledge analysis, so as to enhance the teaching effect.

Furthermore, the curriculum of IEE ought to be scientific and standardized. First of all, enrich the types of IEE courses. The course content not only includes theoretical knowledge, such as management and economics knowledge, but also involves related practice courses to organize students to practice in enterprises. In addition, IEE courses should be updated regularly and timely to constantly improve the content and structure of the teaching materials. Second, form a systematic innovation and entrepreneurship courses. For example, according to the different grades and professional students' cognitive and demand difference, colleges and universities can design innovative entrepreneurship education general enlightenment course, contains the innovation idea of professional basic compulsory courses, entrepreneurship courses and professional courses of professional entrepreneurship advanced class three different modules of professional innovation entrepreneurship curriculum system. These curriculums will promote students from innovation enlightenment, creative to product incubation, entrepreneurial project simulation and practice, improve the curriculum integration, practical, and flexibility, and deepen the integration of innovative entrepreneurship courses and professional education degree.

*4.3. The Development Path of the Students.* With the IEE development, college students should change their cognition of IEE and recognize the importance of innovation and entrepreneurship ability to employment and entrepreneurship in essence. Firstly, entrepreneurs should change their traditional concept of employment. Employment does not mean going to enterprises, public institutions, government departments, and other institutions after graduation, working in the form of employees; entrepreneurship is also an important aspect of employment. At the same time, IEE cannot be simply defined as promoting employment, driving the growth of career opportunities, and creating social and economic benefits. On the contrary, it is an important means to promote the all-round development of students, the motive power of the comprehensive reform of colleges and universities, and an effective strategy to comprehensively enhance

the national core competitiveness. Therefore, colleges and universities can make full use of traditional media and new media platforms to strengthen the publicity and introduction of the methods and tools of innovation and entrepreneurship education and enhance students' understanding of IEE through training, lectures, and other activities.

Secondly, college students can also take an active part in innovation and entrepreneurship courses and activities in school and understand the relevant policies so as to obtain some experiences for entrepreneurship work after graduation. For example, the school could carry out popular innovation and entrepreneurship activities such as science and technology forum, entrepreneurship salons, and various creative competitions among all the students to stimulate the innovation awareness of the students.

Finally, college students should take an active part in social practice activities. When participating in the study of relevant theoretical knowledge, college students should actively gain social practice through going out of school and exercise their own entrepreneurial consciousness and entrepreneurial spirit. For example, they could enter social organizations or enterprises to obtain practice training. Of course, students' enthusiasm for IEE is the result of the joint efforts of the government, universities, and teachers, and all paths must be cleared to achieve the best results.

## 5. Conclusions

From the perspective of the game balance analysis innovation entrepreneurship development direction, the current university IEE has some realistic dilemma, innovation cognitive dislocation, insufficient resources investment, and imperfect platform, which caused the practice of entrepreneurship education unsatisfactory; the overall structure of resource supply system is not scientific and lacks of innovation transformation system. Universities should provide more perfect teaching conditions to guide students to actively learn about innovation and entrepreneurship. The government should increase support and guarantee for IEE and promote the development of innovation and entrepreneurship education. Considering the reality existing in the process of innovation entrepreneurship education practice, combined with the practice law of innovative entrepreneurship education and the objective actual situation of higher education system, the author believes that colleges and universities should use the power of the government, enterprises, and social, comb the top design of innovative entrepreneurship education actively, establish a set of and teaching to incubation from the perfect system investment mechanism, complete the innovation entrepreneurship education incubation platform, and improve the effectiveness and timeliness of innovative entrepreneurship education in universities. The government strengthening the top-level design of IEE evaluation is an important basis for promoting the scientific, institutionalized, and standardized evaluation of IEE evaluation, from the national level of innovation entrepreneurship education evaluation system, evaluation standard, evaluation subject, evaluation method, and the application of the evaluation results of the top, to promote

the education platform building, and promote the practice of innovative entrepreneurship education evaluation, thus boost the high quality development of "double innovation".

Education is a process of gradual and systematic development. In the context of encouraging national entrepreneurship, IEE should be instilled into the process of the whole education system. The compulsory education stage began to pay attention in cultivating students' innovative consciousness. In the stage of higher education, pay attention to guiding students to the cultivation of entrepreneurial awareness and drive the development of entrepreneurship education with innovative education. Some innovative competitions and courses can be set up in the basic education stage, which build innovation awareness of student in advance. The higher education is an optimal stage of students to make career planning, so the teachers should focus on the combination of IEE with the professional courses and cultivates the innovation consciousness and entrepreneurial ability of students from the professional view. In the whole process of education, we gradually accept the influence and cultivation of innovation and entrepreneurship education to realize the continuity and integrity of the development of innovation and entrepreneurship education.

## Data Availability

The datasets used during the current study are available from the corresponding author on reasonable request.

## Conflicts of Interest

The authors declare that they have no conflict of interest.

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