

# A Game-Based Approaches for Teaching Entrepreneurship in Application-Oriented University

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## ABSTRACT

Entrepreneurial education has been gradually popularized in higher education of China, but the characteristics and requirements of entrepreneurial education in application-oriented university are different from other types of universities. Based on the educational practice of application-oriented universities, we attempt to explore game-based approaches (GBAs) in entrepreneurial education from the perspective of experiential learning theory. In this paper, we first comb the focus of entrepreneurial education, and then define some practical challenges faced by entrepreneurial education. Finally, we put forward the GBAs with the core of "Flipped classroom + Games". A new classroom teaching mode for teaching entrepreneurship that our study discussed provides new approaches and suggestions for application-oriented university of China to effectively carry out entrepreneurial education.

**Keywords:** *Game-based approaches, teaching, entrepreneurial education, application-oriented university*

## 1. INTRODUCTION

Under the national strategy and vision of innovation and entrepreneurship in China, colleges and universities have become a critical platform for developing talents with entrepreneurial spirits and capabilities. Since 2016, entrepreneurial education has become an important part of college education system in China. In accordance with the requirements of the Ministry of Education of China, all colleges and universities have set up innovative and entrepreneurial courses, for all students to provide compulsory and elective courses on innovative and entrepreneurial issues. Meanwhile, application-oriented university and other types of schools have different characteristics and requirements in entrepreneurial education, and new teaching methods need to be used to improve the quality of entrepreneurship education in order to achieve the educational goal of cultivating applied talents.

According to the theory of experiential learning, games are an effective way to establish learning situations [1]; in this learning situation, students can gain knowledge through experiential learning [2]. Game-based approaches (GBAs) have also been described as alternatives to "traditional" methods centred on "teachers", which have historically been synonymous with game teaching in sports and athletic settings [3]. The GBAs could effectively cultivate students' situational learning ability, better apply theoretical knowledge to practice, enhance students' problem-solving ability, and meet the requirements of talents training in application-oriented university of China. Therefore, in the framework of experiential learning theory, this paper attempts to combine game learning with

entrepreneurial education in applied universities, proposes GBAs in the context of entrepreneurial teaching, and realizes the effective integration of theory and practice in entrepreneurial education processes.

## 2. EVOLUTIONS OF ENTREPRENEURIAL EDUCATION

### 2.1. From entrepreneurs to processes

Early entrepreneurial research focused on entrepreneurial traits, trying to identify a series of traits that could make difference between entrepreneurs and non-entrepreneurs. Miner [4] proposed four psychological personality models of entrepreneurs, namely personal advisers, emotional super-salesmen, real managers, and expert entrepreneurial producers. Nyberg and Carlgren [5] identified four main entrepreneurial traits through systematic literature review: achievement needs, self-control, tendency taking risks, and tolerance for uncertainty.

However, the emphasis and inquiry on entrepreneurial characteristics have caused a wide range of debates, "Is the entrepreneurial characteristics born or acquired?" As a response to the traditional discussions of entrepreneurial characteristics, Gartner [6] emphasized that need study the topics of entrepreneurial education from the perspective of behavioural approaches, and then he clearly pointed out that entrepreneurship is ultimately creation of organization. In the process having various interactions between multiple forces or factors, entrepreneur is only one of this elements; so entrepreneurial education should focus on what entrepreneurs should do not who is an entrepreneur.

In fact, this is the purpose of entrepreneurship education of application-oriented universities.

**2.2. From processes to methods**

The research from traits to behaviours has transformed entrepreneurship education from focusing on certain types of people to the perspective of the entrepreneurial process, but it has turned entrepreneurship into a linear activity, including identifying opportunities, developing concepts, understanding resource needs, acquiring resources, and formulating Business plans, implementation plans, managing new businesses and exits. This means that entrepreneurship has become another version of management-the process of leadership, control, planning, and evaluation.

Therefore, some studies have begun to think about structuring entrepreneurship from a new perspective. The concept of entrepreneurship proposed by Shane and Venkataraman [7], that is identifying, assessing, and developing opportunities, has become the most frequently used and most cited definition of entrepreneurship. The research began to explore entrepreneurial issues from the perspective of entrepreneurial cognition, and the research craze for individual entrepreneurs reappeared. However, the research on entrepreneurial cognition is not to distinguish entrepreneurs based on personality, but to reveal entrepreneurs' thinking patterns, and assumes that specific thinking patterns are the source of competitive advantage and individual differences.

Entrepreneurial cognition is positioned as the knowledge structure that people use to make assessments, judgments, or decisions about opportunity identification, opportunity evaluation, new business creation, and business growth. The core issue of entrepreneurial education is no longer whether an individual can become an entrepreneur, but how an individual can become entrepreneurial, create opportunities, and act on opportunities. Entrepreneurial education should be elevated to a higher level. It cannot simply teach entrepreneurship as a process, but must teach it as a method.

**3. CHALLENGES OF ENTREPRENEURIAL EDUCATION**

The knowledge structures of entrepreneurial education includes both basic management theory and knowledge, as well as the principles of innovation and entrepreneurship. Then, it is a combination of management education and innovation education, but also has unique requirements and rules. Therefore, we need realize that entrepreneurial education in application-oriented university faces many challenges.

**3.1. The integration of entrepreneurial theory and practice**

Since Plato's theory of theory, theory has been in a dominant position in education, and practice has not been given enough attention. Entrepreneurial education is a highly practical knowledge system. It is not enough to rely solely on theoretical teaching. It is not reliable to rely entirely on practice. Therefore, there is a constant and growing dilemma in entrepreneurship education: What is the role of theory in the entrepreneurial classroom? What is the role of practice?

According to the level of combination of theory and practice, the combination of theory and practice can be divided into four types: (1) apprenticeship, that is, job training; (2) synthetic, namely a theory that can be implemented; (3) mysterious, that is, hero Story; (4) Academic style, namely talking on paper. In fact. The entrepreneurial education required by application-oriented colleges and universities should be synthetic, not only to teach students to apply the theory, but also to ensure that these theories and methods can be used by students for practice.

**3.2. Entrepreneurship as methods and processes**

Entrepreneurship is considered both a method and a process that have many differences (Table 1). How to effectively integrate the two is an important challenge facing entrepreneurial education in application-oriented university. Entrepreneurship as a process needs to show students the key links, problem solutions and goal control of the entrepreneurial process; and entrepreneurship as a method requires the development of a set of practices through which help students build entrepreneurial thinking and cultivate those who are more capable students in entrepreneurial action of application-oriented university.

**Table 1. Comparison of entrepreneurship as method and process**

<b>Entrepreneurship as method</b>	<b>Entrepreneurship as process</b>
A set of practices	Known inputs and predicted outputs
Learning stage	Complete established steps
Iteration	Linear
Creativity	Predictive
Action is the focus	Plan is the focus
Invest in learning	Expected return
Cooperative	Competitive

In fact, effective entrepreneurial education should help entrepreneurs cognize the world as a multitude of different possibilities, create and reorganize new opportunities, create rather than look for markets, accept and use surprises, and interact with a large number of stakeholders. Entrepreneurs' activities are not to predict the future and follow specific steps and work towards the set goals, but to

continuously integrate and create resources, and to create the future through continuous trial and error and learning.

#### 4. THE GBAs of ENTREPRENEURIAL EDUCATION

Based on the development trends of entrepreneurial education, and many challenges facing entrepreneurial

education of application-oriented university. Based on the theory of experiential learning, we proposes a game-based approaches (GBAs) for entrepreneurial teaching from the integrated perspective of games and learning behaviours, in order to response the challenges entrepreneurial education of application-oriented university faced and improve the effects and level of entrepreneurial education in application-oriented university (Figure 1).

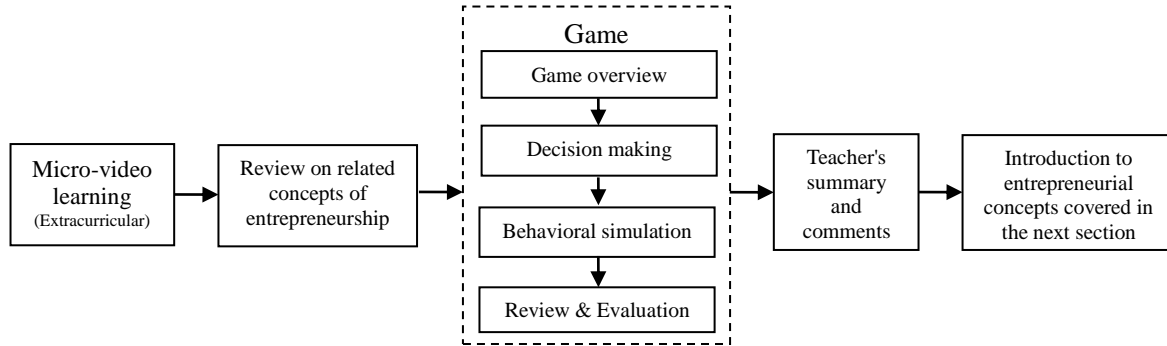


Figure 1. The game-based approaches (GBAs) of entrepreneurial teaching

##### 4.1. The theoretical cornerstones of the game-based approaches

Pragmatic educational thoughts attach great importance to the status of games in education, not only that games should become an important part of the college curriculum system, but also emphasize that games are considered as an effective form of curriculum teaching to help students build between experience and knowledge. Logical association. Learning from experience, that is, "learn by doing" is in line with the essential characteristics of entrepreneurial education, emphasizing that school education is organically connected with social practice and practicing "theories that can be implemented."

The basic assumption of the GBAs is that games and simulated environments can make the learning experience more effective. The core of the gamified learning model in entrepreneurship education includes two aspects: (1) Online learning activities enable students to explore and understand the concepts related to entrepreneurship involved in the classroom, and strengthen pre-class learning and understanding activities. (2) Classroom interactions is centred on a formal game, focusing on the development and formation of soft skills that are essential to conceiving the "entrepreneurial approaches".

##### 4.2. The core elements of the game-based approaches

Under the traditional classroom lecture mode, students listen in the classroom and complete their homework after class; while the flip classroom mode is where students learn micro-lectures based on teaching goals and content

before class to complete advanced assignments; then the teacher guides in the classroom. Students discuss and analyse to solve problems and create inquiry-based learning methods. Then, flipping the classroom could not only enhance students learning motivations and autonomy, but also improve students' academic quality and optimize the teacher-student relationships, which has attracted widespread attention in the education community [8].

The GBAs is based on the teaching form of flipped classroom, which embeds the game link into the classroom interaction and discussion link, thereby enriching the flipped classroom teaching method. "Flipped classroom + games" constitutes the core element of the gamified learning model: Flipping the classroom is the basis of the gamified learning mode. Without the teaching form of flipping the classroom, simply gamified learning cannot effectively help students to integrate the game experience with the curriculum. Knowledge fusion and absorption; games are the core of the gamified learning model. Students will fully combine activity experience and knowledge learning through classroom team games, which not only enhances the interaction and fun of learning, but also strengthens students' understanding and absorption of knowledge.

##### 4.3. The operation mode of the game-based approaches

The GBAs emphasizes group learning, not individual student learning. Previous studies have found that team learning helps encourage students to form a dynamic competitive situation, and at the same time cultivates teamwork and team leadership. Mulvey and Ribbens [9] pointed out intergroup competition can significantly

enhance team effectiveness and efficiency, and can effectively reduce team ineffective behaviour. In team design, choosing the right team members is the most basic and important factor [10]. We believe that an optimal team consists of 4 to 6 members with diverse basic learning styles.

According to the views of team, basic learning process should include four basic learning methods: divergence, accommodation, absorption and integration. In fact, the basic ways of team learning have different roles in the GBAs: (1) Game overview and decision-making, focusing on students' active experience process through divergent thinking, designed to train students to understand the external environment and the internal rules of emotional experience; (2) Behavioural simulation, paying attention to students' use of specific knowledge and experience, especially matching knowledge and experience in games; (3) Retelling and evaluating, training students' abstract conceptualization and reflective observation ability, emphasizing through introspective activities to enhance the experience of learning, so as to achieve the absorption and fusion of knowledge.

## 5. CONCLUSION

According to the GBAs, facing the requirements of the cultivation of talents in application-oriented universities of China, effectively integrating games with teaching will not only change the traditional understanding of "learning is a chore", but also help achieve the optimal teaching state of "learning in entertainment and entertainment in learning". In fact, the practical characteristics of entrepreneurial education for college students require students to gain knowledge through experience, not just simply teacher lectures. Therefore, we deeply believe that entrepreneurial education in application-oriented universities of China should adhere to the cultivation of students' practical capabilities as the main body, taking the experience knowledge as the guide, and then giving full play to the students' initiatives linking internal and external classroom. So, we think that the GBAs has the advantage of "learning with fun" which has become an important teaching method for entrepreneurial education of applied universities.

Meanwhile, through teaching activities that flipping the classroom and integrating games, students could have time to think and learn what they like in teaching and practice. More importantly, by applying the GBAs, enhancing the attractiveness and interaction of entrepreneurial learning in applied universities will effectively help activate innovative entrepreneurial education, and then positively enhance the purpose of teaching, as well as effectively implement the vision of entrepreneurial education, namely the innovation and entrepreneurship education should be integrated into the training of talents, and then be built on the soil of mass entrepreneurship and innovation in China.

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