

## EFFECTIVENESS OF ENTREPRENEURSHIP EDUCATION MANAGEMENT IN COLLEGES AND UNIVERSITIES UNDER LIAONING PROVINCE

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### Abstract

The objectives of this research were: (1) To examine the components of effectiveness for entrepreneurship education management in colleges and universities under Liaoning Province; (2) To develop the managerial guidelines of effectiveness for entrepreneurship education in colleges and universities under Liaoning Province. The research methodology was a mixed methodology research, including qualitative and quantitative research. The population of the research consisted of 478 who were administrators, professors, instructors of entrepreneurship education in universities under Liaoning Province. The sample size was determined by Krejcie and Morgan's Table (1970), obtained by a stratified sampling technique sampling method, totaling 302 samples. The key informants consisted of the dean of 5 key informants who were instructors, the director of the entrepreneurship education project, and dean of Entrepreneurship College with more than 5 years of experience from three outstanding entrepreneurship education colleges and universities under Liaoning Province, obtained by purposive sampling method. The instruments used for data collection were semi-structured interviews, five-level rating scale questionnaires, and Focus Group Discussions Form. The statistics used for data analysis were frequency, percentage, mean, Standard Deviation (S.D.), and Exploratory Factor Analysis. As well as the content analysis was employed. The research findings revealed that: (1) There were five components of effectiveness for entrepreneurship education management which consisted of Entrepreneurship Educational Management Process, Entrepreneurship Education

Ecosystem, Creation of Pedagogical Entrepreneurship Education, Cultivation of Students' Educational Innovation and Talent and Enhancement of Students' Entrepreneurial Competency; and (2) There were total of 18 managerial guidelines of effectiveness for entrepreneurship education in colleges and universities under Liaoning Province.

**Keywords:** Effectiveness, Entrepreneurship Education Management, Liaoning Province

## 1. INTRODUCTION

Entrepreneurship education is a new field of educational practice exploration and educational theory research. It is a new educational concept. It not only embodies the connotation of quality education, pays attention to the cultivation of students' practical ability, but also emphasizes the change of students' employment concept and the improvement of students' entrepreneurial consciousness and ability. It is the "third" education passport after cultural education and skill education, and the direction of world education development. Entrepreneurship education promotes the renewal and development of pedagogy, education management and entrepreneurship management (Min, 2014: 1).

Entrepreneurship education started late in China, which is a new idea of ideological education. At present, in the environment of an imperfect economic system, credit mechanism has not been established, social and cultural traditions and other factors, entrepreneurship education of university students in China are still in the initial stage. Theoretical research and practical summary need to be further strengthened, and its entrepreneurship education management and its effect are also very important. It is far behind the requirements of China's current rapid political, economic, and social development. The main problem is that entrepreneurship education has not formed an effective management model and system.

This research analyzes and studies the current situation of College Students' Entrepreneurship Education in Liaoning Province, a typical province of entrepreneurship education in China. It is found that the implementation process of entrepreneurship education in colleges and universities in Liaoning Province has encountered many setbacks and challenges. Colleges and universities mainly focus on the learning of entrepreneurship knowledge, the training of entrepreneurship ability and the teaching of entrepreneurship technology. However, in terms of the current economic and entrepreneurial environment, it is far from enough to carry out research work only limited to these contents, and its pertinence and effectiveness are still relatively weak. The overall number of successful college students is low, and the entrepreneurial

atmosphere of college students is not very strong, which reflects that there are still deficiencies in the development of entrepreneurship education in Liaoning universities. For example, effective management factors such as ecosystem, discipline system, operation mechanism, process management, student ability, innovative student education and talent training mode all have room for improvement.

Therefore, the research title “Effectiveness of Entrepreneurship Education Management in Colleges and universities under Liaoning Province” was conducted.

## 2. MATERIAL AND METHODS

This research will discuss the methodology used to conduct the study. The research objectives were: (1) To examine the components of effectiveness for Entrepreneurship Education Management in Colleges and Universities under Liaoning Province, and (2) To develop the managerial guidelines of effectiveness for Entrepreneurship Education Management in Colleges and Universities under Liaoning Province. The research methodology was mixed methodology, including qualitative and quantitative research. There were three processes of research which were research proposal preparation, research procedures, and research report.

**The specific steps and research procedures are as follows:**

**Step 1:** Studying variables of Entrepreneurship Education Management in Colleges and Universities under Liaoning Province.

Based on the semi-structured interview with key informants, the variables affecting the effectiveness of entrepreneurship education management are preliminarily consisted: (1) objectives of entrepreneurship education, (2) strategic planning of entrepreneurship education, (3) organization and management of entrepreneurship education, (4) organization and operation management system, (5) control, (6) Process management of entrepreneurship education, (7) Entrepreneurship education achievement management, (8) Evaluation of students by employers and society

**Step 2:** Examining the components of effectiveness for Entrepreneurship Education Management in Colleges and Universities under Liaoning Province.

Quantitative Research: The researcher used the variables of effectiveness for Entrepreneurship Education Management from step (1) to prepare a questionnaire as an instrument to collect data from samples in order to examine components of Entrepreneurship Education Management in Colleges and Universities under Liaoning Province.

Population consisted of 478 who were Managements, Professors, Instructors, Administrators of Entrepreneurship Education in universities under Liaoning Province. They

came from 20 colleges and universities of entrepreneurship education in Liaoning Province, which are classified according to the scale and professional skills of universities. The researcher determined sample size with Krejcie and Morgan's Table (1970). The sample size was approximate 302 Managements Professors, Instructors, Administrators , with a stratified sampling technique. In order to make accuracy in Exploratory Factor Analysis, the researcher has increased the sample size to be approximately 302 samples. Population and samples are as follows Table 1.

**Table 1:** Population, Samples, and Respondents

City School	Population	Sample	Respondents				Total
			Managements	Administrators	Professors	Teachers	
Dalian City	20	8	12	20	30	30	92
Shenyang City	20	8	15	26	35	40	116
Fuxin City	2	2	3	2	10	15	30
Anshan City	2	1	1	1	15	30	47
Jinzhou City	4	1	1	1	5	10	17
<b>Total</b>	<b>48</b>	<b>20</b>	<b>32</b>	<b>50</b>	<b>95</b>	<b>125</b>	<b>302</b>

This research used a five-level rating scale questionnaire for data collection (1) formulate a questionnaire based on concept, theory, relevant literature and research; (2) Five experts tested the content validity of the questionnaire by objective consistency (IOC); and (3) The statistics used for data analysis were frequency, percentage, mean, standard deviation (S.D.), and Exploratory Factor Analysis.

**Step 3:** Developing the managerial guidelines of effectiveness for Entrepreneurship Education Management in Colleges and Universities under Liaoning Province.

Qualitative Research: The researcher used each component of Entrepreneurship Education Management from step (2) to develop the managerial guidelines of effectiveness for Entrepreneurship Education Management in Universities under Liaoning Province by using Focus Group Discussion; 9 key informants (Vice Dean of teaching, department heads of institutions and provincial entrepreneurship tutor) from different outstanding entrepreneurship education colleges under Liaoning Province.

### 3. RESULTS

#### Section 1: Result of Data Analysis for Research Objective 1.

The researcher conducted Exploratory Factor Analysis effectiveness for entrepreneurship education management in colleges and universities under Liaoning Province in accordance with the following procedures:

Variable analysis of components of effectiveness for entrepreneurship education management in colleges and universities under Liaoning Province. The researchers analyzed the arithmetic mean ( $\bar{x}$ ) and standard deviation (S.D.) by comparing the derived arithmetic mean to the criteria based on Best's concepts.

It was found that overall, 83 questions the arithmetic mean ( $\bar{x}$ ) was between 3.24-4.43, indicating that the respondents has an opinion on the level value of the variable by the arithmetic mean ( $\bar{x}$ ) from medium to high, standard deviation (S.D.) was between 0.70-1.53, indicating that respondents has quite different opinions on the variable.

The variables with the greatest arithmetic values ( $\bar{x}$ ) were variable number 11, Cultivate college students' sense of responsibility and mission in the society. There was an arithmetic mean ( $\bar{x}$ ) 4.43 standard deviation (S.D.) 0.73, indicating that the informant has a second moderate difference of opinion; variable 2, Enhance students' entrepreneurial awareness (value awareness, risk prevention awareness, etc.) there was an arithmetic mean ( $\bar{x}$ ) 4.37 standard deviation (S.D.) 0.79, variable 3 Improve students' entrepreneurial ability (entrepreneurial knowledge, entrepreneurial attitude, etc.) there was an arithmetic mean ( $\bar{x}$ ) 4.36 standard deviation (S.D.) 0.84 and variable 69 The management of students' participation in the competition, social practice and other results there was an arithmetic mean ( $\bar{x}$ ) 4.36 standard deviation (S.D.) 0.79 indicates that the informant has moderately different opinions, and the variables with the smallest arithmetic values ( $\bar{x}$ ) are variable 17, Coordinate and allocate entrepreneurial educational materials and resources with arithmetic values ( $\bar{x}$ ) 3.24 standard deviations. (S.D.) 1.53 indicates that the informant has a very different opinion about Coordinate and allocate entrepreneurial educational materials and resources to administer Entrepreneurship Education. Considering the number of fact levels It found that five moderate facts accounted for 6.02 percent, a very high of 78, 93.98 percent.

#### 1. KMO-Meyer-Olkin and Bartlett's Test

Exploratory Factor Analysis using ready-made programs, an important preliminary agreement was to verify the suitability used to analyze the components. Comrey and Lee offered guidelines for determining the sufficient number of samples to analyze the component, saying that the number of 50 samples was extremely inappropriate. The number of 100 samples was inappropriate.

A fair number of 200 samples, the number of 300 samples was good, the number of 500 samples was very good, and the number of more than 1,000 samples was the best, which corresponded to Tabachnik and Fidell, which confirmed that Factor Analysis required at least 300 samples.

In addition, it was reviewed using test statistics, which hereby used variable statistical monitoring to be related based on KMO and Bartlett's Test values, with the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) between 0-1, and Bartlett's Test of Sphericity, test statistics testing variables to see if they were related. As shown in Table 2.

**Table 2:** Shows KMO-Meyer-Olkin and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.961
Bartlett's Test of Sphericity	Approx .Chi-Square	27439.605
	df	3403
	Sig.	.000

From Table 2, it was summarized that:

The KMO test results of the data collected from the research were .961. Kaiser and Rice studied KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) to measure the suitability of the data on whether factor analysis techniques should be used, and concluded that if KMO values  $\geq 0.8$ , then the data set could use Factor Analysis well. Therefore, this set of data was suitable for good Factor Analysis. Testing the relationship between variables by statistical values, Bartlett's Sphericity Test at statistical significance ( $\text{sig } 0.000 \leq 0.05$ ) indicate that there was the correlation coefficient matrix of variables. Therefore, the resulting information was appropriate to conduct further factor analysis.

**2. The factor loading, variables described in each of the main components after rotating the axis. As shown in Table 3.**

**Table 3:** Shows Components of Entrepreneurship Education Management.

Order	Components	Number of Variables	Factor Loading
1	Component 1	45	0.643-0.892
2	Component 2	24	0.467-0.828
3	Component 3	7	0.537-0.691
4	Component 4	4	0.414-0.736
5	Component 5	3	0.668-0.892
	<b>Total</b>	<b>83</b>	<b>0.414-0.892</b>

From Table 3, it was summarized that:

There were five qualified components as follows; component 1 containing 45 variables that described component, factor loading between 0.643-0.892; component 2 containing 24 variables that described component, factor loading between 0.467-0.828; component 3 containing 7 variables that described component, factor loading between 0.537-0.691; component 4 containing 4 variables that described component, factor loading between 0.414-0.736; component 5 containing 3 variables that described component, factor loading between 0.668-0.892. The total number of variables that described the five components were 83 variables, factor loading between 0.414-0.892.

There were 5 components as follows: Component 1, the researcher named it "Entrepreneurship Educational Management Process." Component 2, the researcher named it "Entrepreneurship Education Ecosystem." Component 3, the researcher named it "Creation of Pedagogical Entrepreneurship Education." Component 4, the researcher named it "Cultivation of Students' Educational Innovation and Talent". Component 5, the researcher named it "Enhancement of Students' Entrepreneurial Competency".

## **Section 2: Result of Data Analysis for Research Objective 2.**

There were total 18 managerial guidelines: consisted of (1) Set up practical management policy in organization; (2) Communicate management process within organization; (3) Enhance participation within organization; (4) Strengthen the quality control of entrepreneurship education; (5) Construction of entrepreneurship education support system; (6) Construction of Policy Ecology; (7) Collaborate Entrepreneurship Education with stakeholder; (8) Strengthen innovative ideas among students, graduating alumni, and teachers; (9) Cultivate entrepreneurial chrematistics; (10) Establishing the evaluation mechanism of entrepreneurship education in Colleges and Universities; (11) Construct the dynamic mechanism of entrepreneurship education in Colleges and Universities; (12) Construct the supporting system of entrepreneurship education; (13) Combination of innovation education and Entrepreneurship Education; (14) Innovation Platform Construction; (15) Establish industry university research cooperation mode; (16) Enhancement of Students' teamwork ability; (17) Enhancement of Students' professional knowledge application ability; and (18) Improve students' organizational management ability.

#### 4. DISCUSSION AND RECOMMENDATIONS

##### 1. Discussion based on research objective:

The major findings were revealed as such because in the new era full of opportunities and competition and the urgent need for economic transformation, the society needs more and more innovative and compound talents to promote economic development and social progress. As the gathering place of knowledge talents, it is particularly important to improve the quality of talent training. At the same time, it puts forward higher requirements for entrepreneurship education with the main goal of cultivating innovative and practical talents. To improve the quality of entrepreneurship education, we need to establish a complete management system to improve its effectiveness. From the research results, the five parts of entrepreneurship education process management are the main components of constructing the effectiveness of entrepreneurship education management.

In the enterprise educational management process, it is the basic guarantee for the orderly operation of entrepreneurship education to constantly be familiar with international and local government policies, especially entrepreneurship policies, improve entrepreneurship education system, establish clear organizational objectives, and improve the effectiveness of entrepreneurship education management in Colleges and universities; Entrepreneurship education ecosystem is an important environment for the sustainable development of entrepreneurship education; Creation of humanistic entrepreneurship education, a perfect entrepreneurship education system is an important support for the orderly implementation of entrepreneurship education; Cultivation of students' educational innovation and talent is the basic means to cultivate innovative and compound talents; Enhancement of students' ethical competence is to meet the needs of the development of socialist market economy, alleviate the increasing social employment pressure, and is the direction of China's higher education reform.

Therefore, the five components of the research results are important elements to build the effectiveness of entrepreneurship education management and an important means to improve entrepreneurship education management. The common development of the five components can bring more opportunities for the future of entrepreneurship education.

Component 1: Entrepreneurship Educational Management Process. This research finding was in accordance with the theories or research of Yuan Dedong (2018: 97-99). which was found that carried out process optimization management from the aspects of textbook improvement, teaching method optimization and innovation, teacher team construction, teaching supervision, teaching evaluation and teaching result feedback, and finally achieved the goal of comprehensively



improving the management quality of innovation and Entrepreneurship education in Colleges and universities. Also, the findings were in the same direction with Lu Qiuping (2015: 21-24), and Lu Zhen (2017) Moreover, From the research of Dong Xiaohong (2009), it was found that we should improve the management organization and set up a special entrepreneurship organization; establish and improve the guarantee mechanism of College Students' entrepreneurship education and further strengthen the organization and leadership of College Students' entrepreneurship education; establish a strong leadership organization of entrepreneurship education to ensure the implementation of entrepreneurship education and establish a school entrepreneurship education leading group. Corresponding to the research of Jiang Lulu (2014), Meng Xianyang (2016) and sun Fuan (2016: 165-168).

Component 2: Entrepreneurship Education Ecosystem. This research finding was in accordance with the theories or research of Huang Zhaoxin (2017), Wang Peng (2019) which was found that The construction of entrepreneurship education ecosystem is an important direction of the reform of entrepreneurship education in Colleges and universities. Also, the findings were in the same direction with Chen Jing (2017) and Huang Zhaoxin (2017: 37-42). Moreover, from the research of Wang Qiong (2021: 125-126) it was found that Constructing the ecological system of innovation and entrepreneurship education in Colleges and Universities. corresponding to the research of Fei Zhiyong (2020: 223-227+231), He Yubing, and Ding Jianmin (2015: 1043-1051).

Component 3: Creation of Pedagogical Entrepreneurship Education. This research finding was in accordance with the theories or research of Wu Guangyu (2014: 119-121) which was found that Curriculum concept, curriculum content, curriculum construction resources and curriculum evaluation system are the main contents of entrepreneurship education. Also, the findings were in the same direction with Lin Yuliang, Zeng Chen (2016:118-110) Moreover, from the research of Yin Xiaoshi, Yang Chu & Gong Jingyi (2020: 131-134) it was found that we should strengthen the construction of innovation and entrepreneurship education curriculum, teaching staff and practice mechanism, so as to promote the construction of higher education support system and improve the quality of innovation and Entrepreneurship Education, corresponding to the research of Huang Xiaoqiang (2017: 97-100), and Hou Lixia Yao Shengzhuo Wang Chuantao & Tian Hongsen (2020:69-74).

Component 4: Cultivation of Students' Educational Innovation and Talent. This research finding was in accordance with the theories or research of Shi Yuhuan (2008) which was found that Colleges and universities should change traditional ideas and advocate innovative spirit,

also, The findings were in the same direction with Pang Jili (2011) and Yuan Chuan (2014) Moreover, from the research of Feng Wei (2015). It was found that establishing and improving the evaluation system of innovative talents in Colleges and universities is an important link and means of cultivating innovative talents in Colleges and universities, corresponding to the research of Hou Lixia (2010).

Component 5: Enhancement of Students' Entrepreneurial Competency. This research finding was in accordance with the theories or research of Liu Bin (2020) which was found that "Improving college students' entrepreneurial ability and cultivating entrepreneurial consciousness, entrepreneurial spirit and entrepreneurial ability in practice are the inevitable requirements of Cultivating College Students' core competition". Also, the findings were in the same direction with Li Wei, Xi Xiaotao, Wang Yang (2017: 79-85) & Wang Yan (2018: 92-94). Moreover, from the research of Zhang Dan (2020: 151-153), it was found that: "set up effective courses to increase college students' entrepreneurial knowledge reserve and improve their entrepreneurial skills; Carry out entrepreneurship training to enhance their understanding of the entrepreneurial process and cultivate their awareness of risk and social responsibility". Corresponding to the research of Cheng Xiaoning, Wei Liang (2020: 183-184), and Liu Jie (2016: 253).

## **2. Recommendations**

### **Recommendation for Policies Formulation**

(1) Strengthen the process management of entrepreneurship education and improve organizational efficiency.

(2) Establish an entrepreneurship education ecosystem to promote the sustainable development of entrepreneurship education.

(3) Establish entrepreneurship education, establish and improve entrepreneurship education management system

(4) Innovate student education and talent training cultivate innovative Talents.

(5) Improving students' entrepreneurial ability and building a high-quality entrepreneurial team.

### **Recommendation for Practical Application**

(1) Improve the management organization, set up a special entrepreneurship education organization, and strengthen the quality monitoring of entrepreneurship education.

(2) Build a long-term entrepreneurship mechanism, form a good entrepreneurship order, and promote the reform of entrepreneurship education

(3) Promote the reform of entrepreneurship education mechanism.

(4) Promote the reform of entrepreneurship education model and build a platform for students' entrepreneurship.

(5) Serve students' growth needs, promote students' future ability development, and improve the quality of College Students' entrepreneurship.

#### **Recommendations for Further Research**

(1) Further verify the rationality and scientificity of the effective components of entrepreneurship education management in Colleges and universities in Liaoning Province.

(2) Further apply the management policy to colleges and universities in Liaoning Province to promote the development of entrepreneurship education management in Colleges and universities in Liaoning Province.

(3) The similar research topics are verified and confirmed according to the research samples of different provinces (cities), so as to enhance the generalizability of the relevant research conclusions of this paper.

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