

## **Analysis and Study on Carving-out Education in Vocational Colleges Based on Three Dimensionalities Perspective of Function prediction model**

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**Abstract.** Along with the continuous improvements of vocational colleges teaching models, the role of carving-out education in vocational colleges has become more important, and the ways on how to improve the efficiency of carving-out education has become the major issue in vocational colleges. This thesis analyses the carving-out education for vocational colleges from a three dimensionalities perspective and explores the necessity of carving-out education. Taking Dongying vocational college as an example. Based on analyzing the data of carving-out education in vocational colleges within 10 years, a function prediction model is established for prediction analyse, thus the carving-out education achievement for the next 10 years can be obtained. The result shows that the carving-out rate raises year by year, the carving-out education in vocational college will provide more jobs and opportunities for graduate students, create more high-tech innovative talents for our country. In other words, carving-out education plays a more direct role in the promotion of regional economic and social development.

### **Introduction**

In the current international situation, the key of the competition among countries is the overall national strength. However the competition of the comprehensive national strength lies in the quality of economic development, the economic competition is determined by the development of enterprises and the competitiveness of enterprises depends on the talented people, so that the talents is an important manifestation of the national capacity and they directly impact on all aspects. Today our primary mission is to train more talents, which means not only to improve the quantity of the talents, but to enhance the quality of the talents. In the entrepreneurial -based 21st century, knowledge economy can call out more carving-out talents, and the key of culminating carving-out talents depends on the carving-out education in vocational colleges. Vocational colleges should seize this opportunity, conquer difficulties and cultivate more outstanding creative talents to achieve the ideal of rejuvenating the Chinese nation, which reflects the need for the development of this century<sup>[1-3]</sup>. Based on the three dimensionalities perspective analysis of the carving-out education in vocational colleges attention should be paid to the following three aspects:

### **Analysis of the vocational college carving-out education based on three-dimensional perspective**

The carving-out rate of vocational colleges' graduates is high in China only reached about 1%. However the rate in developed countries is far more than that of China. The main reason lies in the neglecting of the importance and necessity of carving-out education and the defeat of effective implementation. By analysing the carving-out education scientifically based on the three dimensionalities perspective, more attention should be paid to the following three aspects .

#### **A. Intense competition among employments**

The goal of vocational college carving-out education is to cultivate students to become innovative talents with high-quality and high- skill by teaching so that they can well adapt to the needs of social development and apply the skills and knowledge to different kinds of work in the

future. This goal also reflect the necessity for improving vocational college carving-out education<sup>[4-6]</sup>. Vocational colleges can provide more jobs for the society and newly graduates by founding small businesses can also provide a new source of information for our country 's technological innovation, besides those business will help a lot in raising the country's tax revenue . Therefore, there is an inevitable trend for providing carving-out education for vocational college students.

#### B. The development and utilization of human resources

Vocational college education is a part of higher education in China. The graduates of these colleges are also a group of college students who will contribute a lot to social development and produce the corresponding labour value in the future, the higher the students' abilities are the greater labour value they make. Based on the reasonable scientific knowledge education, the vocational colleges carving-out education is one of the most effective means to improve students' ideological and moral characters and their practical ability, widen their knowledge structure, and help them to establish a good thinking, analysing and solving problems ability, all of these will make them become more productive.

#### C. The social development demands

In today's social environment, the precondition of socialism with Chinese characteristics is the insurance of family harmony, and family harmony is rooted in the employment of children, so the employment of university students is a key point for China's development. The aims of carving-out education are to increase the employment rate, improve students' overall competitiveness, help students to survive in the society, realize the diversification of employment and transform the traditional passive employment pattern into today's initiative employment pattern.

### **The prediction model of carving-out education in vocational colleges**

#### A. Methods of the prediction model

Prediction is mainly used for estimating and calculating future, in order to realize modeling the research objects of previous and current the imitation processing or abstraction processing measure should be adopted. The first-hand information obtained after modeling refers to the data of the past and present. Through analysing the real data effectively, finding the law, and deducing the subsequent changes, a prediction is funded. To some extend, present not only affects future but also breeds future. Therefore, the established predicting model should truly reflect the development of this inherent law . There are various prediction models and each possesses its own specificity, advantages and disadvantages. However there is no such prediction model that can be applied to every problems so a more accurate prediction method need to be explored.

The methods adopted by the predicting model of this study is non-linear regression method which was designed by the Math Works Inc. (MATLAB) in 1982, it sets the various roles into one: numerical analysis, matrix computation, signal processing and graphics demonstration. The changes of year for vocational college carving-out education is set as the independent variable, the changes of carving rate is set as the dependent variable , and the function model is funded:  $y = f(x)$ . Along with the change of the year for vocational college carving-out education the carving-out rate also changes . The change is full of uncertainty ,it may increase or reduce .

#### B. Result analysis

Taking a vocational colleges for example, the data in table 1 and figure 1 shows that in the past 10 years the employment pressure of carving-out education in this vocational college is very big still and need to be solved urgently.

TABLE I. The employment situation of Dongying Vocational College in the past 10 years

Year	The number of graduates	The number of employment	Employment rate (%)
2003	1019	968	95.0
2004	1073	1011	94.2
2005	1170	1023	87.4
2006	1726	1450	84.0
2007	1765	1440	81.6
2008	2988	2447	81.9
2009	3102	2438	78.6
2010	3069	2320	75.6
2011	3668	2725	74.3
2012	4009	2963	73.9

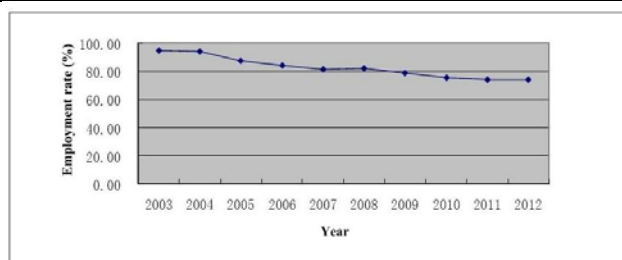


Figure 1. The Employment rate of Dongying Vocational College in the past 10 years

Another Dongying Vocational College is selected an example, the data in table 2 and figure 2 shows the great achievement of that Dongying Vocational College in the past 10 years. This education model should be popularized.

TABLE II. The employment situation of Dongying Vocational College in the past 10 years

Year	The number of graduates	The number of carving-out	Carving-out rate (%)	The number of new jobs
2003	412	7	1.7	13
2004	1649	36	2.2	89
2005	1573	45	2.9	123
2006	1323	46	3.5	136
2007	2997	123	4.1	320
2008	2835	139	4.9	406
2009	3470	194	5.6	536
2010	3850	242	6.3	623
2011	4664	326	7.0	976
2012	4483	345	7.7	1069

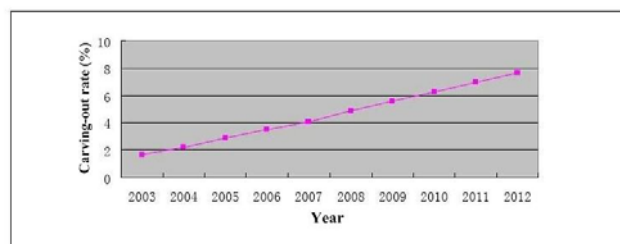


Figure 2. The Carving-out situation of Dongying Vocational College in the past 10 years

From the above data, the function model is funded:  $Y = 0.6491 X + 0.38$ ,  $R^2 = 0.9952$ ,  $X$  is the independent variable, refers to the change of year for vocational college carving-out education,  $Y$  is the dependent variable, refers to the change of carving rate in vocational college. Along with the increase of the year for vocational college carving-out education the carving-out rate also appears a certain degree of rise. Table 3 and figure 3 are obtained by using this model for the caving-out rate prediction of vocational colleges in the next 10 years :

TABLE III. The Carving-out situation of Dongying Vocational College in the future 10 years

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Carving-out rate (%)	8.4	9.1	9.8	10.5	11.2	11.9	12.6	13.3	14.0	14.7

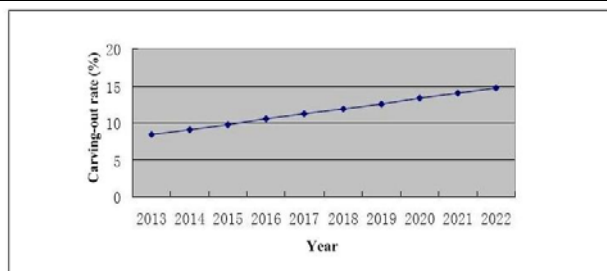


Figure 3. The Carving-out situation of Dongying Vocational College in the future 10 years

The prediction model above shows that in the next 10 years the carving-out rate of Dongying Vocational College will grow annually and will probably reach 15% at the end of this period. At that time the carving-out rate of the new graduates will reach the same level of developed countries, United States: 25%, Japan:15%, Germany:20%. This prediction model also shows that there is a large gap of carving-out education in vocational colleges between China and foreign countries.

## Conclusion

Carving-out education in vocational colleges can cultivate students with entrepreneurial awareness, entrepreneurship, entrepreneurial ability and entrepreneurial qualities, and lead them to become successful entrepreneurs to create more wealth and value. The carving-out education in vocational colleges can provide powerful talent support and economic knowledge contribution to the society. The realization of a effective carving-out education can guide students to devote into practice, improve their skills and qualities and foster a comprehensive development. All of these above will provide a guarantee for the sustainable development of China, help China's urban and rural economy development and meet the objective requirements of social development. The carving-out education in vocational colleges can provide more jobs and opportunities for graduate students and train more people with high-tech innovative talents for the country, thus it is of great significance to analyse vocational college carving-out education from the three dimensionalities perspective.

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