The Exploration and Analysis of Reforming Talent Cultivating Model in Application-oriented Institutes

Yuan Xingguo\textsuperscript{a,b,*}

\textsuperscript{a}School Business of Hohai University, Nanjing, Jiangsu Province-210098 China
\textsuperscript{b}Xuzhou Institute of Technology, Xuzhou City, Jiangsu Province-221008 China

Abstract

Application-oriented institutes have become an important aspect in talent cultivating structures of Chinese higher education. However, because of some traditional running systems, concepts and other problems in Chinese higher education, there are the following problems: objective dislocation, single development model, similar training qualified personnel, missing features and so on in talent cultivating model in application-oriented institutes. Through analyzing the basic elements of talent cultivating, for example, objectives, skills qualities and so on, the paper gives some constructive suggestions about reforming talent cultivating in application-oriented institutes.

Key Words: Application-oriented institutes; Talent cultivating; Reform

1. Introduction

In recent years, to meet the need of social and economic development for high-level applied talents and promote cause of higher education to develop for various levels and many types, the Ministry of Education has approved more than 200 academies upgraded to undergraduate institutes, most of which are application-oriented institutes. In the era of mass higher education, these initiatives have played important roles in optimizing resources of higher education, meeting the need of the masses for receiving higher education, achieving diversification of talent cultivating and so on. According to the new classification criteria accepted by scholars, we will take the main aim of training high-qualities applied talents for production, construction, management, service and so on the first lines; take undergraduate teaching and cultivating students’ application abilities as leading, stressing the combination between

* Corresponding author. Tel.: +8613776789129
E-mail address: yunxgy@yahoo.com.cn
learning and using, learning and doing, learning and innovation and take cooperative education among production, learning and research as the main talent cultivating model, actively servicing for local economic and social development. We classify these colleges with teaching-oriented into teaching and application-oriented model, which takes kind of colleges as teaching model; takes the objective of talent cultivating as advanced application model, short for teaching and application model.

But in the real practice, there are the following problems: objective dislocation, single development model, similar training qualified personnel, missing features and so on. Application-oriented institutes don’t really realize the applied objectives of talent cultivating, which asks us to research reforming ideas of talent cultivating in application-oriented institutes seriously in order to make this kind of institutes cultivate real talent and service for local social economy better.

2. Cultivating objectives of applied talents

2.1. Undergraduate applied talents are high-level

According to different levels of qualification in higher education, applied talents can be classified into specialist level, undergraduate level, and graduate level, etc. Currently, applied talents cultivated in ordinary institutes are mainly located in undergraduate level with theory and technology, and to achieve academic standards of undergraduate education stipulated by Higher Education Law of the People’s Republic.

Undergraduate applied talents are difficult to define boundaries with vocational ones. If from the perspective of “export”, it is relatively easy to identify: Vocational talents are most for job or occupation, while average undergraduate applied talents are most corresponding to professional groups and industry.

2.2. Undergraduate applied talents are the cultivating kind contrasted with theoretical talents

According to different natures of playing roles in a complete production process, we can divide talents into theoretical and applied. Generally speaking, economic and social development is a process from science to technology and then to production; is a process to discover laws, innovate knowledge, convert to apply, product and practice. Theoretical talents are full of innovation abilities and research interests; and then mainly undertake the tasks of discovering laws and innovating knowledge in the process of economic and social development; applied talents turn discoveries, invention and creations into practice or nearly practice; mainly undertake the tasks of converting to apply, and actual production. From the concept itself, the two are just different in type, not in level. From the perspective of promoting social production development, both types are indispensable talents in one country; from increasing production efficiency and technology degree, applied talents will play a more significant role, whose knowledge structure and ability system are built around actual needs of the first lines, especially emphasize on basic, mature and knowledge application and highlight the grasp for basic knowledge and flexible application. The higher institutes with the main objective of cultivating applied talents have the characteristic of application, which is their advantage and essential feature. Contrasted with the institutes to cultivate theoretical talents, the former emphasize on applied knowledge and application of technology; the latter more emphasize on theoretical knowledge and research of theory.

2.3. Undergraduate applied talents are high-quality

Applied talents are focused on the feature of “application”, also highlighting “high quality”. In knowledge, Undergraduate applied talents not only should have a certain knowledge depth, solid
foundational knowledge of profession and excellent applied knowledge. They need also change from the demand limited by “good enough” and “practice” to professional knowledge system with “solid foundation, enhancing stamina”. On the other hand, they also have breadth of knowledge to master some financial, management, interpersonal knowledge and other aspects, which need change from grasping knowledge required by vocational job skills and operational technology to master complete, system multi-disciplinary knowledge. In capacity, applied talents not only have certain ability to practice, but also stronger ability to innovate. Based on mature technology and specifications, having professional skills, techniques, and ability to use in a certain professional job, we also should have broader theoretical knowledge and technology capacity in order to build applied knowledge for students to form the abilities to technology innovation, secondary development and do scientific research. In quality, undergraduate applied talents not only have higher qualities of knowledge and ability, but also higher political and psychological qualities. In fact, in the process of technology development, production and management, their application of professional knowledge and skills show are often relative to personal responsibility, moral and psychological quality, will, physical conditions, which are non-professional qualities closely. These non-professional qualities will directly affect their work effectiveness and quality. Therefore, cultivating this kind of talent should avoid “highlighting professional knowledge, lighting overall qualities”, and emphasize on cultivating students’ comprehensive qualities.

3. Skills and qualities owned by local applied talents

3.1. Skills owned by applied talents

Technology refers to all kinds of operation methods developed according to natural scientific principles and practical production experience”. Thus, the essence of technology is "operation." German philosopher Martin Heidegger did a profound research on technology and in his great masterpiece “Being and Time”, he gave the following idea: the relationship between mankind and the world first and foremost is a kind of operation relation and then is the relation of knowledge and contemplation. This is an unusual insight. In fact, technology with operation as its main feature was born with human kind, very ancient. Long human prehistory is identified by them ((New Stone Age, Paleolithic, bronze, etc.); The "Three technical revolution" in Modern Times have made human life "welded" together with technological development firmly---if we left e-technology, space technology, biological engineering, automation technology, laser technology, information technology, and so, it is difficult to imagine what modern society is like. Thus, Heidegger simply named our age "technology age"; if we learn science in order to get knowledge, to learn technology is in order to get skills. What is a skill? Simply speaking, it is an ability to use technology; that is, people reach a certain proficiency, ability, or dexterity when they directly use tools to “act” objects. Technology is a kind of external objective force on human; a skill is kind of inherent subjective ability on human. Excellent skills can be called “art”; even can reach a degree of "superb, consummate," and Paoding in Chinese ancient fable “Paodingjieniu” is a good model in this respect. In recent years, quality education emphasized in China tends to mention “knowledge” and “ability”, where “ability” can be understood as “skill”. According to the basic orientation of application-oriented institutes and basic objects of talent cultivating, their reforming for talent cultivating model should closer to the actual work of graduates’ job positions. By summing up, we think the following basic abilities must be owned in all professional positions:

(1) Basic skills, mainly including: reading, writing, listening, speaking and computing.

(2) Thinking skills, including: creative thinking, decision-making thinking, solution thinking, visual thinking and learning thinking, reasoning mind.

(3) Professional skills, including five categories:
The first category: resources: determination, organization, planning and allocation of resources.
The second: relationships, working with others.
The third: information, getting and using information.
The fourth: system, understanding complex interrelationships.
The fifth category: technology, using a variety of technology to work.

3.2. Qualities owned by applied talents

Here qualities should be highly correlated with quality degree of professional positions, reflecting the basic feature for cultivating applied talents. In this sense, we can define quality as individual characteristics shown in certain position that can tell excellent workers from ordinary ones, including: motivation, features, self-concept, knowledge, skills and so on. Therefore, if we measure quality from the characteristics of work positions, we can compare it as follows:

Table 1: The comparison between Quality model of competency and qualification

<table>
<thead>
<tr>
<th>Quality model of competency</th>
<th>Post-qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerned qualities in deep level owned by excellent employees, including motives, character, ability, personality and other features;</td>
<td>Concerned qualities in shallow level owned by qualified employees, such as knowledge, skill experience, certification and so on;</td>
</tr>
<tr>
<td>Developing standards of personnel selection and recruitment;</td>
<td>&quot;threshold&quot; standard of personnel selection and recruitment;</td>
</tr>
<tr>
<td>Its contents as the most important aspects of talent promotion and development;</td>
<td>As the important content of talent’s post-training;</td>
</tr>
<tr>
<td>Both complement each other, but not interchangeable</td>
<td></td>
</tr>
</tbody>
</table>

According to comparison, we can identify the differences between excellent employees and ordinary ones in positions, which can give us basis for reforming talent cultivating model.

Above are composition analyses on required skills and qualifies of talent cultivating in application-oriented institutes. These basic elements for applied talents are all very important whether in current study or future work. Especially the basic skills close to work-position, should be taught and understood in the form of close connection in teaching, and be consolidated and used in related learning, practice, and work. This is the basic goal of reforming talent cultivating in application-oriented institutes.

4. Ideas of reforming talent cultivating model in application-oriented institutes

4.1. Adjusting curriculum and course system, strengthening foundation, broadening professional caliber, and strengthening practical and creative abilities.

The reform of course system mainly lies in integrating and optimizing basic courses and specialized courses of disciplinary. By curriculum, it can reflect the principle of overall optimization; the basic platform must be built for professions with the same course; by comprehensively opening up relevant professional basic courses, institutes broaden students’ professional caliber.

4.2. Strengthening practical teaching, emphasizing on engineering qualities
Engineering qualities include engineering awareness, engineering skills and innovation. Institutes strengthen practical teaching, doing continuous practical teaching in four years. Under the situation of reducing total credits, institutes increase the proportion of concentrated practical teaching. The credits of practical teaching are not less than 40% of total credits.

4.3. Focusing on students’ quality development and improving comprehensive abilities

The connotation of quality development system includes training of social comprehensive abilities and professional extension training, which includes development for professional skills and qualities, also expansion of social integration capabilities, cultivating for students’ spirit and temperament, then comprehensive improving for mental and physical qualities. As the applied talents in the 21st century, they should have good overall qualities, and then meet the requirements of continuous social development. The aim of vigorously promoting students’ quality development education is to ensure trained students to have higher thinking quality, scientific literacy, teamwork spirit, adaptability, sense of competition, the spirit of hard work and enterprising, and then become workers widely accepted by society.

4.4. Increasing training requirements and supplying training platform

In view of optimization and upgrading of industrial structure in China and increasing social demands for advanced technology-based talents, we should set out from the characteristics and laws of cultivating applied talents; integrate the content of professional training with an object and plan in teaching, actively leading students to achieve credits and encouraging them to get all kinds of certificates of various vocational skills, which not only creates conditions for students to get all kinds of vocational certificates accepted by society before employment, but also lay a good foundation for them to obtain appropriate professional qualifications in the future. For this, schools and relevant units establish channels and obtain many rights of skills assessment; Adhering to the principles of professional counterparts, source authority, social recognition, schools actively carry out vocational evaluation.

Acknowledgements

This article is supported by fund item of Eleventh Five-Year Plan” of 2009 research topic, Jiangsu Province Education and Science, and is phase research result of “The Study on Constructing Public Service Security System of College Graduates’ Employment in Jiangsu under the International Financial Crisis”.

References

