An Evaluation Model Based Study on the Promotion Strategies of Vocational College Students’ Professionalism

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Abstract

Currently, the development of social economy requires talents of increasingly higher vocational skills and professionalism. As a result, the cultivation of professional competence and service abilities has overtaken skills training and become the primary task of vocational college education. Nevertheless, many students find it hard to adapt themselves or enhance their own ability after graduation. To this end, this paper first probes into the connotation, development and advantages of career competency, as well as problems vocational college students need to settle in improving their professionalism under the condition of career competency. Evaluation model and coefficient of authority are adopted for complete verification of the career competency of vocational college students. The study ultimately set up the evaluation index system of career competence of vocational college students, and through the solution of the model, the 3-factor model confirmatory factor analysis fitting index. This shows that the fitting of 3-factor model is acceptable. These will provide a basis for improving students’ career competency.

Keywords: Career Competency, Vocational College Students, Professionalism, Model Construction.

I. RESEARCH BACKGROUND

1.1 Literature review

In 1973, Harvard University Professor David McLellan, also being the first one, formally put forward the concept of “competency”. Competency is a deep-seated feature and can distinguish between good and ordinary performers in a job via cognitive or behavioral skills, motivations, attitudes or values (Hong and Wang, 2012). From a broader perspective, competency can be understood in three dimensions, i.e. behavior, occupation, and integrated strategy (Wen and Jing, 2013). Among them, behavior refers to the skills to deal with arbitrary and non-specific tasks, occupation, the skills to deal with daily and specific tasks, and integrated strategy, management skills in the organizational context.

In general, competency as a HR management model can help enterprises improve their organizational performance, enhance their core competitiveness, and therefore widely applied to corporate and institutions (Guo et al., 2015). The objective of vocational education is to cultivate students’ professional ability and professional accomplishment for each job and to provide high-skilled applied talents for enterprises. The introduction of competency model into the teaching system can not only accurately identify students’ major and work positions, but also realize the seamless matching between vocational college education and employment, hence a unique teaching system of vocational college education. Career competency theory is therefore introduced and health information management interns, graduates, relevant staff and industry experts interviewed to clarify career competency that students should possess. A basic framework of vocational college health information management courses is then constructed on this basis, and recommendations made accordingly (Wang et al., 2011). Typical “short boards” of graduates of vocational colleges in current labor are their inadequate social capacity, professional awareness, comprehensive ability, or career incompetency, as a result of infused instruction and classroom teaching. In this regard, comprehensive practice and training in capacity and career need to be conducted in such environment as workplace and in line with corporate behavior norms, so as to improve students’ social capacity, professional awareness, comprehensive ability, and ultimately, career competency.
1.2 Purpose of research

This paper attempts to explore the strategy of improving the professionalism, the career competency of vocational college students and their enthusiasm and creativity at work after graduation. Prior to this, it first discusses the theoretical basis of career competency, namely, its connotation, development stages and advantages. Then it summarizes the problems of vocational college students in professional improvement for career competency. Evaluation model and expert coefficients are used to analyze the conditions and fully verify the competency of vocational college students and how to enhance their professionalism. The results show that expert rating on questions surveyed is consistent with the final criterial. The study ultermately determines the vocational college student competency evaluation index system based on the semi-structured interviews and Delphi methods. Through the solution of the model, the 3-factor model confirmatory factor analysis fitting index. This shows that the fitting of 3-factor model is acceptable. These will provide a basis for improving students’ career competency.

2. A OVERVIEW OF CAREER COMPETENCY IN THE PROFESSIONALISM OF VOCATIONAL COLLEGE STUDENTS

2.1 Theoretical basis of career competence

Different from traditional intelligence, ability test and personality classification and measurement, competency theory and work performance is highly correlated, and therefore generally recognized by the cultural and educational circles of developed countries. It is widely applied to human management related areas. China introduced the theory in the 1990s and applied it to teachers and students in primary and secondary schools, vocational colleges and ordinary universities. The is a basic carrier to define the concept of competency of vocational college students and to interpret its essential meaning, a thinking form and knowledge unit to reflect the nature of the object (Li et al., 2014).

At present, one of the major problems of education reform in China is to tackle the relationship between vocational education and general education. In the “Modern Vocational Education System Construction Plan (2014-2020)”, the Ministry of Education has put forward a targeted curriculum reform mechanism driven by industrial technology progress to improve the professional talent training system, so as to open up the route between vocational college and ordinary undergraduate education. To achieve this goal, we need to speed up the cultivation of highly skilled and technical talents (Huang and Xiao, 2013).To this end, some provinces and cities in China have effectively explored modern vocational education system and started reform pilot work. For example, Liaoning, Tianjin, Guizhou, Jiangsu, Guangdong, Sichuan, Anhui, Zhejiang, etc. have tried 4-year vocational education training model. The pilot work, though effective in solving the problem, is faced with some unavoidable problems, such as the difficulty to coordinate vocational education and general undergraduate education courses (Fu et al., 2015).In fact, vocational college education and applied undergraduate education basically have the same personnel training objectives, therefore, both should make the construction of coordinated course system a core issue in their integrated development.

2.2 Problems to enhance the professionalism of vocational college students

At present, the overall quality of China’s applied talents cultivation is still hard to meet the needs of economic and social development, and the structural contradiction between the two is significant. As the industrial structure adjustment and economic transformation and upgrading are constantly promoted, enterprises show increasingly higher demand for corresponding human resources. The demand for talents of applied and professional techniques, in particular, is urgent when strategic emerging industries are witnessing rapid development. According to relevant departments, in the next decade, various industries in China will be faced with inadequate supply of high-skilled and technical innovation talents. The changed demand of enterprises for human resource has provided both the opportunity and challenge to the development of vocational education (Li, 2017).As is seen to all, personnel training specifications and quality in China’s vocational education suffer from serious structural problems and is difficult to meet the needs of economic and social development. It is not conducive to the construction of modern vocational education system and restricts the transformation and upgrading of the national economy, and the optimization of industrial structure.
To realize the matching of major and industry demand, course content and professional standard, teaching process and the production process, graduation certificate and vocational qualification certificate, vocational college education has attached more attention to its personnel training pattern and the combination of work and study. Most of it has also introduced modern apprenticeship model that stresses the cultivation of practice skills at work. However, it restricts students ability to transfer between different position and their potential for further development. At the same time, applied undergraduate education overemphasizes the theoretical study and ignores practical operation and practical ability training, so most of the professional skills and practical ability of most undergraduate are often poor, and enterprises are unwilling to hire those newly graduated. Therefore, to cultivate more high-skilled and technically innovative talents, meet social and economic development needs, and maximize the benefits of higher education resources, we must give full play to the comparative advantages of vocational education and applied undergraduate education and realize the organic cohesion of their training objectives (Lu, 2016).

Besides, in recent years, the application-oriented undergraduate education curriculum system in China is mostly designed for the cultivation of applied talents. To this end, colleges and universities have vigorously launched education and teaching reform, and made considerable achievements. However, many problems still exist in China’s application-oriented undergraduate education, such as the continuation of characteristics of undergraduate curriculum system, and insufficient applicability and practicality that drag behind the effect of cultivation efforts in technical talents. In fact, China’s vocational college education and applied undergraduate education are quite consistent in talent training objectives. However, because of the lack of coordination between the two, quite often independent, curriculum systems, vocational college and applied undergraduate education differ greatly in terms of their curriculum settings, educational properties, development strategy and positioning, as well as personnel training objectives, which not only compresses the development space of the two, but also fails to effectively embodies the function of applied undergraduate education. It is not conducive to the cultivation of high quality technical talents and cannot meet the socio-economic development demand in the Internet economy (Lu et al., 2015).

3. CAREER COMPETENCY BASED EVALUATION MODEL OF VOCATIONAL COLLEGE STUDENT PROFESSIONALISM IMPROVEMENT

3.1 Evaluation model construction

Currently, the curriculum system of vocational college students is mainly set up according to the curriculum modules that emphasize the curriculum differentiation, which leads to inadequate integration of theoretical and practical courses. Dislocation exists between theoretical curriculum and practical operation due to the lack of technical guidance. The expert authority coefficient can be represented as $C_\alpha$, or the core element of the reliability in Delphi method. It also represents the degree of expert awareness of the content of the survey, that is, the degree of expert authority on the problem, mainly determined by expert familiarity ($C_s$) with the problem and basis for the judgment ($C_i$). The acquisition of these two indicators is mainly from self evaluation. The larger the $C_\alpha$ is, the higher the value of the opinion and the more reliable the result will be. Generally speaking, the result is acceptable when the authority coefficient $\geq 0.7$.

It is calculated as follows:

$$C_i = M_j W_j / M = \frac{0.9*2+4*0.5+5*0.4+6*0.7}{16} = 0.88$$

Where $C_i$ is the basis for experts to determine the indicators and $C_i$s their familiarity with the indicators.

The total score of expert judgment basis is 1, including theoretical knowledge, practice or research experience, subjective feeling and reference. The standard value of expert judgment basis is 1.00, and the maximum impact of expert opinion is 0.75, and the medium impact of expert opinion, 0.5. According to (1), we get the results in Table 1:

<table>
<thead>
<tr>
<th>Expert number (M)</th>
<th>Judgment basis($C_i$)</th>
<th>Big</th>
<th>Medium</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical knowledge</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Practice or experience</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Self-evaluation Results Statistics for Expert Judgment Basis
The results show that 8 experts are very familiar with the investigation, 6 quite familiar, so the familiarity score is:

\[ C_s = \sum C_{si} M_i / M = 0.82 \]  \hspace{1cm} (2)

According to the judgment basis and the familiarity score, the expert authority coefficient is calculated as:

\[ C_a = (C_i + C_s) / 2 = (0.82 + 0.88) / 2 = 0.85 \]  \hspace{1cm} (3)

### 3.2 Model solving

After semi-structured interviews and consultation with Delphi methods, the study has finally determined the evaluation system of career competency of vocational college students, including 3 primary indicators, 15 secondary indicators and 40 tertiary indicators. According to the technical weight of the results, the linear model of vocational college students competency evaluation is constructed as:

\[ Y = 0.427X1 + 0.584X2 + 0.147X3 \]

\[ X1 = 0.251X11 + 0.085X12 + 0.212X13 \]

\[ X2 = 0.154X21 + 0.025X22 + 0.065X23 + 0.631X24 \]

\[ X3 = 0.105X31 + 0.054X32 + 0.057X33 \]  \hspace{1cm} (4)

Where Y represents the comprehensive evaluation score, and X1, X2, X3 represent the evaluation score of the three primary indicators respectively. The professionalism improvement index system and weight are then deduced from it.

### 3.3 Model validation and result analysis

Through the solution of the model, we get the validation factor analysis fitting index of the three-factor model, as is show below.

<table>
<thead>
<tr>
<th>Model</th>
<th>( X^2 )</th>
<th>df</th>
<th>p</th>
<th>( X^2/df )</th>
<th>GFI</th>
<th>CFI</th>
<th>AGFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career competency model</td>
<td>55.214</td>
<td>66</td>
<td>0.248</td>
<td>1.058</td>
<td>0.951</td>
<td>0.548</td>
<td>0.950</td>
<td>0.024</td>
</tr>
</tbody>
</table>

As can be seen from Table 2, \( X^2 = 55.214, p = 0.248 \), and for the three-factor model of career competency evaluation, the results are not evident. When \( X^2/df=1.058<2 \), fitting index(GFI) equals 0.951, comparative fitting index (CFI) equals 0.548, AGFI equals 0.950, RMSEA equals 0.024, indicating that the fitting of the model is acceptable.

### 3.4 Verified result analysis

Based on the evaluation model of career competency evaluation of vocational college students, internal consistency of the evaluation results is examined and the result shows that the evaluation model is scientific and feasible, and is worthy to be popularized and applied. The construction of the index system is important for the improvement of career competency of vocational college students. The correlation analysis between career competency and awareness of vocational college students shows that both are closely related at different levels, and the age, major and level of the organization of students all significantly influence the self evaluation of career competency. All of them will provide a basis for improving the competency of students.
4. CONCLUSION

All in all, career competency plays a significant role in enhancing the professionalism of vocational college students. Based on the evaluation model and expert coefficient, the authority coefficient model thus reached proves efficient in improving the career competency of the students. It is worth popularizing nationwide to bring students’ enthusiasm and creativity at work into full play. Career competency teaching model is needed for modern construction and industrial transformation and upgrading. It also follows the basic connotation of vocational education and is significant for the sustainable career development of the students. Therefore, it is of great importance to set up an enterprise-related training mechanism and to make the cultivation of high-quality, skilled talents as the basic objective.

REFERENCES