Model of Dual VET-System Invocational Colleges
under Liaoning Province

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ABSTRACT

The objectives of this research were: (1) to explore the components of dual VET-system model in vocational colleges under Liaoning Province;(2) to develop the managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning Province; and (3) to verify the model of dual VET-system in vocational colleges under Liaoning Province, the People's Republic of China.

The research methodology was a mixed methodology research, including qualitative and quantitative research. Population of the research consisted of 455 who were manager, professors, instructors, administrators of vocational education institutes. The sample size was determined by Krejcie and Morgan's Table (1970), obtained by a stratified sampling technique, totaling 339 samples. The key informants were consisted of instructors of vocational colleges, managers of enterprise under Liaoning Province, leaders of the vocational colleges under Liaoning Province, who have more than 10 years' experience and have very deep understanding in vocational education field, obtained by purposive sampling method. The instruments used for data collection were semi-structured interview form, five-point rating scale questionnaire, and Focus Group Discussion form. The statistics used for data analysis were frequency, percentage, mean, Standard Deviation, and Exploratory Factor Analysis as well as the content analysis was employed.

The research findings were revealed that: (1) there were five components of dual VET-system in vocational colleges under Liaoning province which were policy for dual VET-system in vocational colleges, vocational teaching method for dual VET system, school-enterprise

cooperation for dual VET system, concept and attitude for dual VET-system, vocational education management method for dual VET system, (2) there are total 19 managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning province which were consisted of five managerial guidelines for component of policy for dual VET-system, four managerial guidelines for component of vocational teaching method for dual VET system, four managerial guidelines for component of school-enterprise cooperation for dual VET system, three managerial guidelines for component of concept and attitude for dual VET system, and three managerial guidelines for component of vocational education management method for dual VET system and (3) the researcher built up the model of dual VET-system in vocational colleges under Liaoning province based on the 17 managerial guidelines which were verified by five key informants with connoisseurship, and four more managerial guidelines connoisseurship open ending comments.

Keywords: Dual VET-system, Vocational Colleges, Liaoning Province

1. Introduction

Dual Vocational Education Training System (Dual VET-System) is a distinctive form of vocational education. It originated in Germany, was borrowed after China's reform and opening, and gradually integrated into China's vocational education system (Ren, 2013, p.34). The development of vocational education has existed for a long time in China's educational history and has been steadily developing today. Dual VET-system has always been the mainstream vocational education in China (Wang, 2017, p78). It is mainly a form of cooperation between enterprises and vocational colleges, which can not only improve the employment rate, but also provide stable talent output for enterprises. The dual VET-system is a vocational training model to achieve a win-win situation.

In this research, researcher focus on the region Liaoning Province in northeast part of China, because of its special geographical location, the industrial structure is single, and the vocational education system is backward development. As a result, the problem of low employment and population loss remains difficult to solve. Researchers indicated that developing a quality model of dual VET-system will promote the development of vocational education and training in vocational colleges under Liaoning Province, and at the same time solving many social problems in this region, such as low employment, population loss, and unbalanced development of talents. The researcher firmly believes that this is the purpose and significance of this research (Su, 2011).

It is necessary to develop a quality model of dual VET-system with Liaoning regional characteristics because vocational education is developing rapidly in China, and Liaoning's vocational education must keep pace. With the development of economy and society, the division of specialization is becoming increasingly sophisticated, and the importance of technical talents to economic and social development is becoming increasingly prominent, and the demand is particularly urgent (Tan, 2015, p.6). Vocational education, as one of the four sub-systems of the modern education system in China, is one of the educational forces for training technical talents, and the relationship with social economy is particularly close. In recent years, the state has committed itself to the development of vocational education and promulgated a large number of documents and policies, with the goal of completing the fundamental transformation from a major country in vocational education to a powerful country in vocational education by the middle of this century.

As a researcher, this research is a beginning focus on dual VET-system under Liaoning province. The researcher is a professional course taught in colleges and universities and has many years of teaching experience in related fields of dual VET-system under Liaoning province. In this research, the researcher focusses on study and construct the model of dual VET-system to investigate the situation about the development of vocational education in Liaoning region. Researcher hopes to take this opportunity to promote the improvement of vocational education policy, the rationality of vocational education curriculum setting, and the scientific of vocational college management methods, to achieve better development of vocational education and increase the employment rate.

2. Research Questions

1. What are the components of dual-VET system in vocational colleges under Liaoning Province?

2. What are the managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning Province?

3.What is the verified model of dual-VET system in vocational colleges under Liaoning Province?

3. Research Objectives

1. To explore the components of dual-VET system model in vocational colleges in vocational colleges under Liaoning Province.

2. To develop the managerial guidelines for developing model of dual-VET system in vocational colleges under Liaoning Province.

3. To verify the model of dual VET-system in vocational colleges under Liaoning Province.

4. Research Instruments

1. Semi-structured interview form, tape record

2. Five - point rating scale questionnaire

3. Focus Group Discussion form

4. Connoisseurship form

5. Research Methodology

The research was mixed methodology design which were comprised of quantitative research and qualitative research. There were four processes of research which were research proposal preparation, research procedures, and research report. The research procedures consisted of four steps:

(1) Studying the variables of dual vet-system in vocational colleges under Liaoning province.

(2) Exploring the components of dual vet-system in vocational colleges under Liaoning province.

(3) Developing the managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning province

(4) Verifying the model of dual VET-system in vocational colleges under Liaoning province.

Study area selection

This research defined the scope of the study mainly focus on Shenyang, Dalian, Anshan three big cities under Liaoning province. These three cities represent the northern, central, and southern regions of Liaoning Province, respectively. The researcher investigated and studied six vocational colleges and four large public state-owned enterprises in this area.

Key informants

In Semi-structured interview form, the key informants are consisted of instructors, supervisors, administrators and managers of vocational colleges and leaders of enterprises, totaling 7, who had more than 10 years' experience from four outstanding vocational colleges and enterprise under Liaoning Province. They are professionals with vocational education

management experience or using relevant management experience to carry out work. They have reasonable experience or certain achievements in vocational colleges and enterprise cooperation, and their success in dual VET-system field has been widely recognized. The key informants without relevant mature ability or experience are from ordinary instructors. Key informants were selected by purposive sampling technique with the above criteria. They are from the outstanding vocational colleges and enterprise under Liaoning Province named Dalian Polytechnic college, Liaoning Petrochemical Vocational Technical College, Liaoning Vocational and Technical College of Architecture. Ansteel group (Steel production corporation).

In managerial guidelines part, the key informants are consisted of 7 key informants who are Shili Zha, Jian Zheng, Changfu Wu, YangYang, Changying Wu and Yanhong Fu from different outstanding in dual VET-system in vocational colleges with more than 10 years' experience under Liaoning Province. They are professionals with vocational education or using relevant management experience to carry out work. They have reasonable experience or certain achievements in dual VET-system, and their success in vocational education field has been widely recognized. The key informants without relevant mature ability or experience are from ordinary instructors. Key informants were selected by purposive sampling technique with the above criteria.

In connoisseurship, the key informants are consisted of 5 key informants who are Jian Zheng, Lang Jiang, Guoqi Yang, Dongyan Hou, and Jun Niu from different outstanding in dual VET-system in vocational colleges with more than 10 years' experience under Liaoning Province. They are professionals with vocational education or using relevant management experience to carry out work. They have reasonable experience or certain achievements in dual VET-system, and their success in vocational education field has been widely recognized. The key informants without relevant mature ability or experience are from ordinary instructors. Key informants were selected by stratified random sampling method with the above criteria.

Population and samples

Population consisted of 455 who were managers, professors, instructors, administrators of dual VET-system in vocation colleges and enterprises under Liaoning Province. They came from 6 colleges and 4 enterprises, which were classified according to the scale and professional skills of vocational education institutes. The researcher determined sample size with Krejcie and Morgan's Table (1970). The sample was managers, professors, instructors, supervisors, administrators, totaling 339, with a stratified random sampling technique.

Data Collection

Data collection was performed by the researcher. Get in touch with key informants and show your identity and willingness. Send the questionnaire by email or other means. Interview was performed by researcher.

The Item Objective Congruent (IOC) and Five Point Rating Scale questionnaires were sent by email and researcher.

By Focus Group Discussion, the researcher was as a facilitator.

(1) Get in touch with key informants and show your identity and willingness, (2) visit or send questions by email or other means, (3) Summarize the discussion and specific content.

By connoisseurship, the researcher was as a facilitator.

(1) Get in touch with key informants and show your identity and willingness, (2) visit or send questions by email or other means, (3) Summarize the discussion and specific content.

Data Analysis

The data from semi-structure interview form was analysis by content analysis.

The data of demographic variables were analysed by descriptive statistics, frequency, and percentage. The variables of dual VET-system model were analysed by descriptive statistics; mean, Standard Deviation (S.D.). The components of dual VET-system model were analysed to reduce irrelevant variables.

EFA was used when a researcher wanted to discover the number of factors influencing variables and to analyze which variables 'go together' (DeCoster, 1998). A basic hypothesis of EFA was that there were m common 'latent' factors to be discovered in the dataset, and the goal was to find the smallest number of common factors that would account for the correlations (McDonald, 1985). Another way to look at factor analysis was to call the dependent variables 'surface attributes and the underlying structures (factors) 'internal attributes' (Tucker & MacCallum, 1997). Common factors were those that affect more than one of the surface attributes and specific factors were those which only affected.

The data from Focus Group Discussion was analyzed by Content Analysis. After the completion of content collection, will be used to analyze the collected content. The Focus Group Discussion was chaired by the researcher, this discussion was about the "managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning province".

Based on the principle of freedom and voluntariness, the experts spoke freely during the discussion, gave the direction of objective 2 (the managerial guidelines of developing dual VET-system in vocational colleges under Liaoning province). According to the research results

of researcher objective 1(to explore the components of the model of dual VET-system in vocational colleges under Liaoning province) and gave more new ideas on the managerial guidelines for each component of dual VET-system in vocational colleges under Liaoning province, for the objective 2 (to develop the managerial guidelines of developing dual VET-system in vocational colleges under Liaoning province).

The data from connoisseurship was analyzed by Content Analysis.

6. Results

the result of data analysis from research instruments were presented in 4 sections as follows:

Section 1: Result of Content Analysis on Variables of Dual VET-system in vocational colleges under Liaoning Province.

Section 2: Result of Data Analysis to explore the components of Dual VET-system in vocational colleges under Liaoning Province.

Section 3: Result of Data Analysis to develop the managerial guidelines for developing model of Dual VET-system in vocational colleges under Liaoning Province.

Section 4: Result of Data Analysis to verify the result of Dual-VET system in vocational colleges under Liaoning Province.

Section 1

From the outline of variables from review of literature and related research, there were five main variables, and 78 sub-variables. Then, the research has prepared semi-structured interview from to conduct interview from 7 key informants who were instructors, directors of vocational colleges, managers of enterprise under Liaoning province, leaders of the vocational colleges under Liaoning province obtained by purposive sampling method.

There were 76 variables from interview of key informants. The researcher has employed content analysis. As result, total 154 variables were found and prepare a research instrument as a five-point rating scale questionnaire. The quality of instruments has been verified by Content Validity and Reliability.

For Content Validity of questionnaire, the researcher has sent questionnaire to five experts for verification. The Item-Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on the score range from -1, 0, +1. The items that had scores lower than 0.6 were revised. On the other hand, the items that had scores higher than or equal to 0.6 were reserved. As a result, it was found that there were 73 items of questionnaire.

For Reliability of questionnaire is a way of assessing the quality of the measurement procedure used to collect data. The researcher has sent out 30 questionnaires to collect data from non-samples in order to consider a result of reliability. Cronbach's alpha coefficient on or above 0.70 means adequate reliability to determine the internal consistency or average correlation of items in a research instrument to measure reliability of the questionnaire. As a result, Cronbach's alpha coefficient was at .977 which can be used to describe the reliability of questionnaire.

Section 2

Part I: From Table 01, it was summarized that there was total 339 responders to the questionnaire: 121 females, 25.6 percent, and 218 males, 64.3 percent. For ages, it was found that majority of respondents were 25 – 30 years old, totaling 5, 1.4 percent. 30 -40 years old, totaling 57, 16.8 percent. 40 – 50 years old, totaling 277, 81.7 percent. For the educational qualification, it was found that the most of respondents were bachelor's degree or equivalent, totaling 212, 62.5 percentage, followed by master's degree or equivalent with 124, 36.5 percent. The lowest number was Doctoral degree or equivalent, with 3, 0.8 percent. From the perspective of working experience in entrepreneurship education and management, 5 – 10 years of personal accounted for 1.4 percent, totaling 5 people. 10 – 20 years of personal accounted for 16.8 percent, totaling 57. More than 20 years of personal accounted for 81.7 percent, totaling 277 people. From the positional level, there were 200 instructors, 44 supervisors, 64 directors, 15, managers and 16 administrators.

Table 1: Frequency and percentage Result of Data Analysis for Questionnaire: Demographic Information

Demographic Information	Frequency	Percentage
1.Gender		
Male	218	64.3%
Female	121	35.7%
2.Age		
25-30	5	1.5%
30-40	57	16.8%
40-50	277	81.7%
3.Educational Degree		
Bachelor	212	62.5%
Master	124	36.6%

Demographic Information	Frequency	Percentage
Doctor	3	0.9%
4.Work Experience		
5-10 years	5	1.5%
10-20 years	57	16.8%
More than 20 years	277	81.7%
5.Positional level		
Instructor	200	59.2%
Director	64	18.8%
Supervisors	44	12.9%
Manager	15	4.4%
Administrator	16	4.7%

Part II:

Data Analysis Result on Questionnaire: Exploratory Factor Analysis

The researcher conducted an Exploratory Factor Analysis of 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 researcher analyzed the arithmetic mean and standard deviation (S.D.) by comparing the derived arithmetic mean to the criteria based on Best' s concepts.

It was found that overall, 73 questions the arithmetic mean was between 3.23-4.77, indicating that the respondents had an opinion on the level value of the variable by the arithmetic mean ($\bar{X}$) from moderate to high, standard deviation was between 0.65-1.14, indicating that respondents have quite different opinions on the variable.

The variables with the greatest arithmetic values were variable number 25, The policy of vertical integration of vocational education at different levels affects the dual VET system. there was an arithmetic mean 4.77standard deviation 0.68,indicating that the informants have almost the same opinion on the variables; variable 72, Vocational education dual certificate system construction affects the dual VET system, there was an arithmetic mean 4.65 standard deviation 0.65, variable 27 Make innovations in school-enterprise cooperation in running schools affects the dual VET system, there was an arithmetic mean 4.63 standard deviation 0.65 and variable 26 Policies to optimize the supply structure of vocational education affects the dual VET system, 4.51standard deviation 0.71 indicated that the informant has moderately

different opinions, and the variables with the smallest arithmetic values are variable 19, With the future of our country vocational education development trends and trends of policy affects the dual VET system with arithmetic values 3.23 standard deviations. 1.51 indicates that the informant has a very different opinion about with the future of our country vocational education development trends and trends of policy affects the dual VET system. Considering the number of fact levels. It found that 1 moderate fact accounted for 1.3% percent, 72 high facts accounted for 98.6 percent.

Part III: Data Analysis Result on Section III of Questionnaire: Exploratory factor analysis of components of Dual VET system in vocational colleges under Liaoning province.

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 enough 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.

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

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.977
Bartlett's Test of Sphericity	Approx. Chi-Square	28639.605
	df	3305
	Sig.	.000

2. Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance of the components of dual VET-system in vocational colleges.

This phase of analysis used factor extraction by Principal Component Analysis (PCA) with orthogonal rotation et.al and varimax rotation. The used criteria for considering factors

were as follows; (1) 0.4 or higher was a practically significant factor loading, (2) eigenvalues greater than 1 according to Kaiser's Criterion, and (3) there were more than 3 variables hatcher. When considering the above criteria, the number of components and the variance of the variables were obtained as shown in Table 3.

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	37.850	45.602	45.602	37.850	45.602	45.602	30.543	36.798	36.798
2	11.851	14.278	59.880	11.851	14.278	59.880	13.709	16.516	53.315
3	12.718	13.274	63.155	12.718	13.274	63.155	15.179	16.240	59.554
4	11.835	12.210	65.365	11.835	12.210	65.365	13.143	13.967	63.521
5	11.639	11.975	67.340	11.639	11.975	67.340	12.443	13.043	66.565

Extraction Method: Principal Component Analysis.

From Table 3 shows the number of components of dual VET-system in vocational colleges. It was found that there were 5 components with an Eigenvalues greater than 1. When rotating the axis, it explained a total variance of 71.598 percent, but considering the selection criteria, components with factor loading at 0.4. There were more than 1 Eigenvalues and more than 3 or more variables that described components.

The components that met all 5 criteria's when the axis was rotated, component 1 had a maximum Eigenvalues of 45.602, it can explain the total variance of 36.798 per component, component 2 had a maximum Eigenvalues of 14.278, it can explain the total variance of 16.516 per component, component 3 had a maximum Eigenvalues of 13.274, the total variance can be explained by 16.240 percent, component 4 had a maximum Eigenvalues of 12.210 , it can explain the total variance of 13.967 percent, component 5 had a maximum Eigenvalues of 11.975, explaining the total variance of 13.043 percent, and other components had an Eigenvalue and the ability to describe it, all variance gradually decreased accordingly, and the components that met certain criteria were components 1-5, it was found to be able to explain a total variance of 66.564.

3. The factor loading, variables described in each of the main components after rotating the axis

As a result, the components of dual VET-system in vocational colleges under Liaoning province were found to be based on the criteria for selecting components. There were 5 components; component 1, 27 variables; component 2, 13 variables; component 3, 10 variables; component 4, 10 variables; component 5, 13 variables.

There were five qualified components as follows; component 1 containing 27 variables that described component, factor loading between 0.649-0.893; component 2 containing 13 variables that described component, factor loading between 0.654-0.862; component 3 containing 10 variables that described component, factor loading between 0.695-0.849; component 4 containing 10 variables that described component, factor loading between 0.796-0.877; component 5 containing 13 variables that described component, factor loading between 0.699-0.899. The total number of variables that described the five components were 37 variables, factor loading between 0.649-0.893.

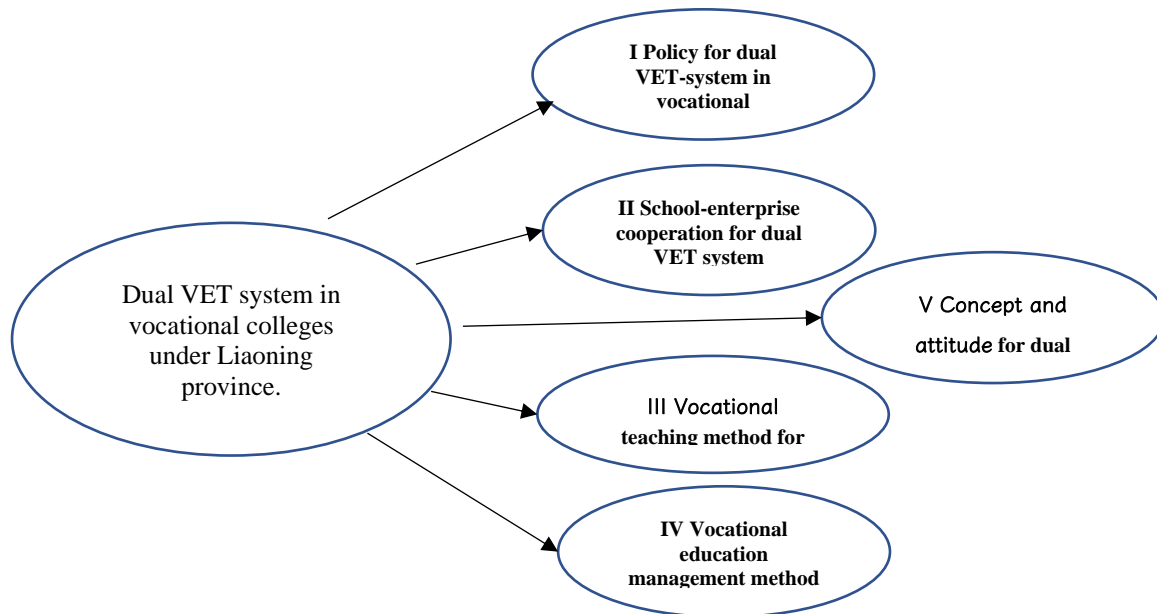| Order	Components	Number of Variables	Factor Loading
1	Component 1	27	0.649-0.893
2	Component 2	13	0.654-0.862
3	Component 3	10	0.695-0.849
4	Component 4	10	0.796-0.877
5	Component 5	13	0.699-0.899
Total		73	0.649-0.899

Figure 1: Shows the Components of "The components of dual VET-system in vocational colleges under Liaoning province."

From Figure, it was summarized that: It explained that the components of the components of dual VET-system in vocational colleges under Liaoning province consisted of five parts:

1. Policy for dual VET-system in vocational colleges.

2. Vocational teaching method for dual VET system.

3. School-enterprise cooperation for dual VET system.

4. Concept and attitude for dual VET system.

5. Vocational education management method for dual VET system.

Section 3:

The Focus Group Discussion was provided by the researcher online and offline. This discussion was about the "developing the managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning Province"

As a result, there were total 19 dual VET-system model development guidelines: Consisted of (1) Reform the vocational education system, increase government subsidies for the development of vocational education, and realize socialized schools, (2) Broaden the channels of enrolment, reform the teaching model, and give priority to open teaching, (3) Strengthen school-enterprise cooperation policies and increase government support for school-enterprise cooperation, (4) Pushing forward the innovation of vocational education policy, (5) Accelerate the implementation of higher vocational education "dual certificate"
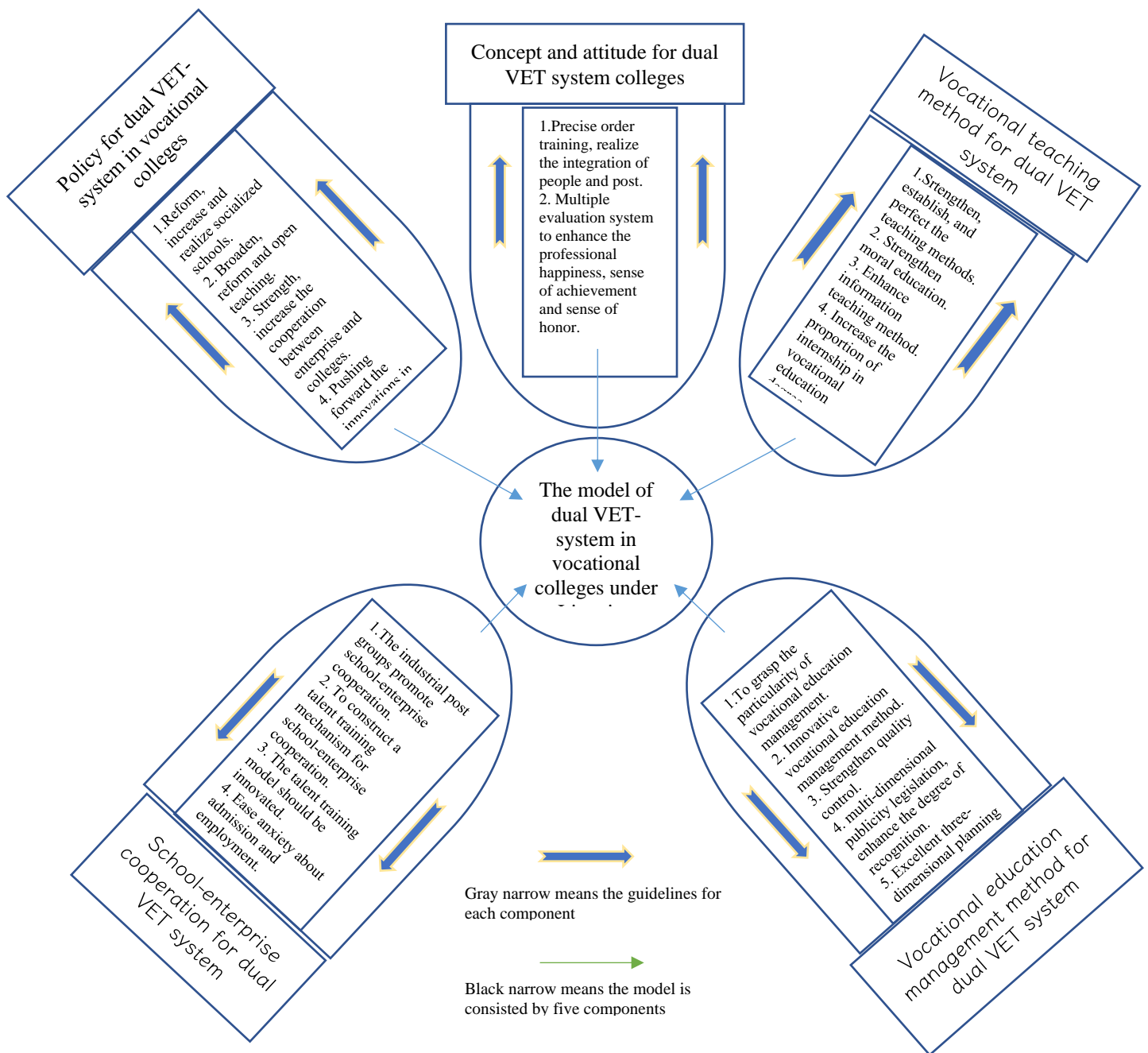
system construction, that is, the bachelor's degree and the college degree are equally important policy, (6) Strengthen theoretical research, establish, and perfect vocational education teaching methods and research system theory, (7) Moral education should be given priority in the process of education, (8) Enhance information teaching, make teaching methods in line with The Times, (9) Increase the proportion of internship in vocational education, (10) The industrial post groups promote school-enterprise cooperation, (11) To construct a talent training mechanism for school-enterprise cooperation, (12) Courses development for school-enterprise cooperation, (13) Bring business masters into the campus, (14) Change the prejudice against vocational education, (15) The talent training model should be innovated, not simply copied, and transplanted, (16) Vocational education should be used to ease anxiety about admission and employment, (17) To grasp the particularity of vocational education management, (18) Innovative vocational education management model, (19) Strengthen quality control.

Section 4:

The Connoisseurship meeting was provided by the researcher online and offline. This discussion was about the verifying the result of model of dual VET-system in vocational colleges under Liaoning Province"

Base on the managerial guidelines from research objective 2 (developing the managerial guidelines for developing model of dual VET-system in vocational colleges under Liaoning province) and the verified direction of objective 3 (to verify the result of the model of dual VET-system in vocational colleges under Liaoning Province), the researcher built up the model of dual VET-system in vocational colleges under Liaoning province.

The model figure shows in next page.

Gray narrow means the guidelines for each component

Black narrow means the model is consisted by five components

6. Conclusion:

In the conclusion, this part focus on the study of model of dual VET-system in vocational colleges under Liaoning province. It is included research objectives, research questions, populations, samples, key informants, research methodology, research instruments, statistics, and research findings.

Based on all the above studies, the model of dual VET-system is consisted by five components which are policy for dual VET-system in vocational colleges, Vocational teaching

method for dual VET system, School-enterprise cooperation for dual VET system, Concept and attitude for dual VET system, Vocational education management method for dual VET system.

All the components correspond to the managerial guidelines from the experts. After that, the prototype of the original model of dual VET-system in vocational colleges under Liaoning province was verified and the final model was built up.

7. Discussions

Summarize on discussion about the model of dual VET-system in vocational colleges under Liaoning province:

According to Qingheng Shi (2018, p5-8), Tengfei Ma (2021, p19) which was found that dual VET-system under Liaoning province, more efforts should be made to promote school-enterprise cooperation, and the government should encourage cooperation between enterprises and vocational schools. At the same time, companies need to provide plenty of internship opportunities for vocational school students. To achieve the purpose of two-way income. Also, the findings were in the same direction with Hui Xing (2017, p.19) and Zengyuan Ren (2013, p.34). Moreover, from the research of Song Chen (2021, p.57), Today's vocational education needs to solve the problem is to train the production, construction, management, service in line with the needs of the first line of high-quality skilled professional. Corresponding to the research of Jun Ma (2021, p.20-25) and Ji Liu (2020, p.98)

According to Yimei Lv (2013, p12), Yunhua Zhang (2015, p34) which was found that vocational education should realize the innovation from the idea of running a school to the innovation of student group training, and then to the overall innovation of the content of industry-university cooperation. With the development of vocational education, the concept of vocational education in the future should develop with the development of social education, and constantly innovate, which is suitable for the development of vocational colleges. Also, the findings were in the same direction with Zhengguang Lei (2020, p.57) and Zengyuan Ren (2013, p.34). The change of vocational education development concept and student group will inevitably bring about the change of teaching method and training mode, and the change of school curriculum setting mode. Future vocational colleges should be the leader of curriculum development. Corresponding to the research of Jian Dong (2023, p.20-25) and Hui Xing (2021, p.98) However, the research of Weiping Shi (2019, p.93-97), it was found that the development of vocational education model in our country is the same challenge

and difficulty. The development of vocational education needs the joint efforts of government, colleges, teachers, and students. The government should create a good environment for the development of vocational education, encourage and support the development of vocational education.

8. Recommendations

1. Recommendation for Policies Formulation

At present, the development of dual VET-system in vocational colleges state has aroused the attention of the government. The government is pushing forward the reform of the vocational education system and establishing a set of vocational education system in line with Chinese characteristics.

2. Recommendation for Practical Application

To achieve the future development goals of VET-system in vocational colleges under Liaoning province, the government should formulate relevant policies to reform the current vocational education system, standardize the development of vocational education, and guarantee the quality of vocational education. The medium- and long-term policies of vocational education need to form two levels of development strategies: the environment construction of vocational education to pursue its own ideal and the response to the impact of university ideas; The national system design gives priority to school development planning and considers market demand.

3. Recommendation for Further Research

In the future, the development of VET-system in vocational colleges under Liaoning province should focus on the following aspects:

1. In the aspect of individual researcher, in the research about model of dual VET-system, researcher should invest more time to integrate into the daily study and production of enterprises and colleges. The purpose of this is to obtain more accurate research information and samples. The conclusion of close contact with the subjects for a long time will be more accurate and comprehensive than a simple questionnaire. At the same time, many schools that researchers want to investigate are not authorized for various reasons. This makes it impossible for the research to proceed smoothly. In the future, the researchers hope to have the opportunity to get answers from these unplaced schools in questionnaires or interviews.

2. The dual VET-system not only needs to be optimized in Liaoning area. This system may be needed for education throughout the northeast and even the whole of China.

The researchers hope to have the opportunity to expand the scope of this study and get more and more different conclusions in the future.

3. Here are the further research recommendations for other researchers in the same direction. Because different regions have different characteristics of vocational education. Of course, this has something to do with the industrial system and industrial tradition of the region. Then according to this point, the research on vocational education must be very diversified. Therefore, the further research recommendations that it must be based on the major of the vocational college and the development direction of the relevant enterprises. The survey results obtained in this way will be more accurate. At the same time, If the vocational colleges surveyed are in the same direction as the relevant enterprises, experts can also give the most pertinent and professional advice in their more familiar areas.

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