



INVESTIGATING THE EDUCATIONAL QUALITY MANAGEMENT OF XUANCHENG ELECTROMECHANICAL COLLEGE, CHINA *

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Abstract

The objective of this research were: 1) To explore the problems and needs of educational quality management in Xuancheng Electromechanical College. 2) To establish guidelines for quality management of Xuancheng Electromechanical College. The sample groups of 28 administrators, 210 teachers and 79 office clerks were surveyed. The stratified random sampling technique is used to sample the entire population. The research instruments were questionnaires and set of questions for focus group discussion and In-depth interviews. The statistics were used for analyzing data including frequencies, percentages, means, and standard deviations. The results of this paper shown that Xuancheng Electromechanical College the quality system, evaluation and inspection mechanism, feedback mechanism, staff training and improvement plan, overall, the perspectives of problems and needs are at the highest level. The guideline for quality management in Xuancheng Electromechanical College was constructed, encompassing the following: a) Improve the quality system. b) improve the evaluation and inspection mechanism. 1) Evaluate objectives and criteria. 2) Evaluate indicators and content. 3) Evaluate methods and tools. 4) Evaluate results and grades. c) Establish a sound feedback mechanism. 1) Purpose of feedback. 2) Principles that should be followed for feedback. 3) Form of feedback. 4) Feedback channels. d) Staff training and improving plan. 1) Training objectives. 2) Training program. 3) Training effect evaluation. 4) Retraining program. The main research results of this paper were as follows: a) Educational administrators should have staff training and improvement plan. b) educational institution administrators should improve the quality system, Ensure sustainable improvement of education quality management. c) educational institution administrators should improve the evaluation and inspection mechanism and institutionalized management. d) Educational institution administrators should establish a sound feedback mechanism so that the inspection results can be processed quickly and effectively.

Keywords: Educational Quality Management, Educational Management, Quality.



Introduction

In the meeting held by the Ministry of Education of China on February 23, 2022, the Ministry of Education clearly notified that 1,000 secondary vocational schools should be built in 3-5 years, no longer simply for employment purposes. The participation rate of entrepreneurship education in secondary vocational schools is much higher than in their counterpart (academic schools). (Ni & Ye, 2018). Pen the growth pattern of secondary vocational students, improve employment, study, development and other aspects so that secondary vocational education becomes the starting point of vocational education rather than the end. It can be said that this meeting illustrates the determination of the Ministry of Education to develop vocational education. At the same time, the quality management of education is also the top priority. The continuous expansion of the scale of secondary vocational education, the penetration of market mechanisms and the fierce competition in the era of globalization, these forces from different directions, and they jointly push the quality from the background to the foreground. It makes the study of educational quality management of secondary vocational schools an important research field. Specificity of educational service is the presence of dualism in the concept of quality. On the one hand, as a provider of educational institution, offering the applicant an educational program in conjunction with other (personnel, scientific and technical, etc.) components of its potential, on the other hand, a specialist who has received a professional education, entering the labor market, faces the assessment of the quality of his professionalism by the employer. (Sherstobitova & Iskoskov, 2020) Therefore, it is an important work of the college to do a good job in education quality management. The application of a high-quality system is a priority in any organization and in education. Educational centers require the recognition of their pedagogical mission to distinguish themselves from other schools and to provide and promote adequate teaching and learning processes in an increasing demands and complex context (Díez, Villa, López, & Iraurgi, 2020). Stakeholders in vocational education have difficulties communicating and collaborating on the design of education, because they often lack a shared understanding of what constitutes effective student learning. (Placklé et al., 2020). The main mission of the internal quality system in educational institutions is to develop the importance of quality in all processes, and create suitable conditions for the increasing loyalty and professional development of faculty staff, continually improve student satisfaction, and achieve recognition of educational institutions in the eyes of the public. (Girmanová, Blaško & Petřík, 2022).

Research Objectives

1. To investigate the needs and problems of educational quality management of Xuancheng Electromechanical College.



2. To propose guidelines to improve quality management of Xuancheng Electromechanical College.

Research Methodology

This study takes Xuancheng Electromechanical College as an example to investigate the current situation of education quality management.

1. Research design

Mixed Methods Research (Quantitative research and Qualitative research) was used to analyze the data because it uses both quantitative and qualitative approaches in the research process.

2. Population and sample group

2.1 Population

The population of this research include teaching teachers and administrative personnel of Xuancheng Electromechanical College to study. The population were divided into 3 groups namely: 1) 446 teachers 2) 30 administrators 3) 97 office clerks.

2.2 Sample Group

The sample groups included: 1) 210 teachers 2) 28 administrators 3) 79 office clerks. Calculated according to Yamane's (1973) formula. The stratified random sampling technique is used to examine the entire population, because the total population was divided into 3 groups which are teachers, managers and office clerks of Xuancheng Electromechanical College.

3. Research tools

The tools used for research are as follows:

3.1. Questionnaires: The questionnaires were divided into two parts as follow: The first part consisted of closed questions which were used to collect personal information of the respondents including gender, age, and identity. The second part of the questionnaire asked the respondents their opinions on the current situation of educational quality management in the college using Likert Scaling. The questions were reviewed and checked by three experts and the methodology of valuation used was the IOC (index of item-objective congruence).

3.2. Focus group discussion were used to collect data from teachers, administrators for creating guidelines of educational quality management.

4. Data Collection

The data were collected by distributing the questionnaires to the participants within one month (3-30 June 2023). The questionnaires were returned randomly. The process of data analysis took about a week. It took two weeks to complete the report for this study. The questionnaires were sent to 360 persons in Xuancheng Electromechanical College and 317



were returned to the researcher. The discussion of focus group was used to collect the data from 5 teachers, 5 administrators.

5. Data Analysis

5.1 Quantitative survey questions were used to analyze and the statistics used for analyzing data including frequencies, means (\bar{x}) standard deviations (S. D.) The Five Point Likert Rating Scale was used to evaluate the respondents' needs and problems in educational management. The criteria and define at the range of the mean scores Srisaat (2002).

5.2 The qualitative method was used for focus group discussion which are analyzed and the statistics used for analyzing data were based on frequencies.

Research Results

1. Present situation of educational quality management in Xuancheng Electromechanical College.

Table 1 Administrators' Problems and Needs of Educational Quality Management

Questions	n = 28		Level of problems and needs
	\bar{x}	S. D.	
Problems:			
Quality system			
1. Education quality management system does not adapt to the development of colleges.	4.85	0.37	Highest
2. Education quality management system is not sound.	4.66	0.49	Highest
Evaluation and inspection mechanism			
1. In the examination of the teaching plan, the assessment method was inaccurate.	4.56	0.30	Highest
2. In the examination of the teaching plan, the educational management strategy was not adjusted and improved in time.	4.57	0.32	Highest
Feedback mechanism			
1. In the implementation of the teaching plan, there is less effective communication, which leads to the resentment of teachers.	4.75	0.29	Highest
2. In the examination of the teaching plan, the evaluation results are not reliable.	4.71	0.53	Highest
Staff training and improvement plan			
1. In the implementation of the teaching plan, the level of teachers varies.	4.50	0.22	high



2. In the treatment of teaching quality, the effect of teacher training is uneven.	4.45	0.27	high
Needs:			
Quality system			
1. Continuous innovation of teaching resources is needed to improve teaching efficiency	4.57	0.58	Highest
2. Effective data collection and analysis can help to understand the problems and challenges in education quality management	4.88	0.28	Highest
Evaluation and inspection mechanism			
1. The inspection of the teaching plan can find and solve problems in time, and evaluate the management effect	4.47	0.48	High
2. The examination of the teaching plan can adjust and improve the educational management strategy in time	4.89	0.51	Highest
Feedback mechanism			
1. Effective communication is needed in the implementation of the teaching plan	4.97	0.21	Highest
2. Addressing the quality of education requires effective communication with stakeholders	4.92	0.34	Highest
Staff training and improvement plan			
1. Better training of teachers is needed to improve the quality of education	4.49	0.39	High
2. Establish appropriate work teams and cooperation mechanisms to ensure the smooth implementation of education quality management	4.77	0.46	Highest

According to Table 1, administrators' assessment in quality system, evaluation and inspection mechanism, feedback mechanism, staff training and improvement plan, overall, the perspectives of problems and needs are at the highest level. Among the problems of Improving the quality system "Education quality management system does not adapt to the development of colleges." was the highest score ($\bar{X}=4.85$, S. D.=0.37). Evaluation and inspection mechanism "In the examination of the teaching plan, the educational management strategy was not adjusted and improved in time." was the highest score ($\bar{X}= 4.57$, S. D.=0.32) Establishing a sound feedback mechanism "In the implementation of the teaching plan, there is less effective communication, which leads to the resentment of teachers." was the highest score ($\bar{X}= 4.75$, S. D.= 0.29). Staff training and improvement plan "In the implementation of the teaching plan, the level of teachers varies." was the highest score ($\bar{X}= 4.50$, S. D. = 0.22).



For the needs of Improving the quality system, “Effective data collection and analysis can help to understand the problems and challenges in education quality management (\bar{X} = 4.88, S. D.= 0.28) For improving the evaluation and inspection mechanism “The examination of the teaching plan can adjust and improve the educational management strategy in time.” was the highest score (\bar{X} = 4.89, S. D. = 0.51). For establishing a sound feedback mechanism, “Addressing the quality of education requires effective communication with stakeholders.” was the highest score (\bar{X} = 4.92, S. D.= 0.34). Moreover, the needs of Staff training and improvement plan “the teaching of dance courses matches the needs of students.” was the highest score (\bar{X} = 4.77, S. D.= 0.46)

Table 2 Teachers’ Problems and Needs of Educational Quality Management.

Questions	n=210		Level of problems and needs
	\bar{X}	S. D.	
Problems:			
Quality system			
1. colleges lack the necessary teaching resources and support.	4.68	0.24	Highest
2. In the implementation of the teaching plan, the level of teachers varies	4.82	0.25	Highest
Evaluation and inspection mechanism			
1. Without a good organization and management mechanism of teaching activities, it is impossible to carry out a positive teaching and learning environment.	4.80	0.38	Highest
2. There is no good teaching activity organization and management mechanism, resulting in classroom teaching cannot be orderly.	4.57	0.39	Highest
Feedback mechanism			
1. The evaluation and feedback mechanism after teacher training is not perfect, which cannot effectively understand the effect and influence of teacher training, and cannot timely correct the problems and deficiencies in training.	4.83	0.26	Highest
2. Lack of students' feedback and evaluation of their own teaching, cannot be targeted to improve teaching.	4.59	0.47	Highest
Staff training and improvement plan			
1. Teacher training often only uses traditional lectures, seminars and other ways, lack of innovation and diversity, cannot meet the learning needs of different teachers and diversified teaching environment	4.43	0.39	high



Questions	n=210		Level of problems and needs
	\bar{x}	S. D.	
2. There is no opportunity to participate in professional training and academic exchange activities, unable to improve their professional quality and educational skills.	4.54	0.52	Highest
Needs:			
Quality system			
1. Necessary teaching resources and support, including teaching materials, teaching AIDS, etc., are needed to improve the quality of education.	4.81	0.22	Highest
2. I hope my teaching method can be targeted at different students and teach students according to their aptitude.	4.85	0.33	Highest
Evaluation and inspection mechanism			
1. It is hoped that colleges can objectively evaluate their own teaching results and put forward specific opinions on their teaching shortcomings.	4.66	0.48	Highest
2. It is hoped that students' learning outcomes can be systematically evaluated and their teaching quality can be understood.	4.57	0.54	Highest
Feedback mechanism			
1. I hope to communicate effectively with parents, colleges and colleges, get the support of parents and colleges, and improve the quality of teaching.	4.76	0.21	Highest
2. It is hoped to know students' feedback and evaluation of their own teaching, so as to carry out targeted teaching improvement.	4.44	0.36	high
Staff training and improvement plan			
1. It is hoped that the continuous innovation of college teaching resources can improve teaching efficiency.	4.67	0.47	Highest
2. I hope to have the opportunity to participate in professional training and academic exchange activities to continuously improve my professional quality and educational skills.	4.88	0.29	Highest

As you can see in Table 2, teachers' assessment in quality system, evaluation and inspection mechanism, feedback mechanism, staff training and improvement plan, overall, the perspectives of problems and needs are at the highest level. Among the problems of Improving the quality system "In the implementation of the teaching plan, the level of



teachers varies.” was the highest score ($\bar{X}= 4.82$, S. D.= 0.85). Improving the evaluation and inspection mechanism “Without a good organization and management mechanism of teaching activities, it is impossible to carry out a positive teaching and learning environment.” was the highest score ($\bar{X}=4.80$, S. D.=0. 38). Establishing a sound feedback mechanism “The evaluation and feedback mechanism after teacher training is not perfect, which cannot effectively understand the effect and influence of teacher training, and cannot timely correct the problems and deficiencies in training.” was the highest score ($\bar{X}=4.83$, S. D.= 0.26). Staff training and improvement plan “There is no opportunity to participate in professional training and academic exchange activities, unable to improve their professional quality and educational skills.” was the highest score ($\bar{X}=4.54$, S. D.= 0.52). For the needs of Improving the quality system, “I hope my teaching method can be targeted at different students and teach students according to their aptitude “was the highest score ($\bar{X}=4.85$, S. D.= 0.33) For improving the evaluation and inspection mechanism “It is hoped that colleges can objectively evaluate their own teaching results and put forward specific opinions on their teaching shortcomings.” was the highest score ($\bar{X}= 4.66$, S. D.= 0.48) For establishing a sound feedback mechanism, “I hope to communicate effectively with parents, colleges and colleges, get the support of parents and colleges, and improve the quality of teaching.” was the highest score ($\bar{X}= 4.76$, S. D.= 0.21) Moreover, the needs of Staff training and improvement plan “I hope to have the opportunity to participate in professional training and academic exchange activities to continuously improve my professional quality and educational skills.” was the highest score ($\bar{X}=4.88$, S. D.= 0.29)

Table 3 Office clerks’ Problems and Needs of Educational Quality Management

Questions	n=79		Level of problems and needs
	\bar{X}	S. D.	
Problems:			
Quality system			
1. In dealing with teaching quality, there is no effective communication with teachers, students, parents, government agencies, etc.	4.92	0.27	Highest
2. In the treatment of teaching quality, there is a lack of effective treatment scheme.	4.85	0.28	Highest
Evaluation and inspection mechanism			
1. In the examination of the teaching plan, the evaluation results are not reliable.	4.57	0.46	Highest
2. In the examination of the teaching plan, the educational management strategy was not adjusted and improved in time.	4.50	0.22	high



Questions	n=79		Level of problems and needs
	\bar{x}	S. D.	
Feedback mechanism			
1. Students lack effective feedback mechanisms.	3.22	0.20	moderate
2. Parents of students lack effective feedback mechanism.	4.47	0.55	high
Staff training and improvement plan			
1. Lack of effective training, training effect is not obvious.	4.96	0.29	Highest
2. In the implementation of the teaching plan, the level of teachers varies.	4.37	0.26	High
Needs:			
Quality system			
1. I need to establish more effective communication channels with teachers, students, parents, government agencies, etc.	4.89	0.32	Highest
2. The treatment of education quality can promote the improvement of education quality.	4.81	0.28	Highest
Evaluation and inspection mechanism			
1. I need the college to give the inspection results in time to adjust my work.	4.55	0.52	Highest
2. I need effective evaluation methods to check my own work.	4.69	0.49	Highest
Feedback mechanism			
1. I need to establish more effective communication channels with my students.	4.89	0.32	Highest
2. I need to establish more effective communication channels with parents.	4.25	0.29	high
Staff training and improvement plan			
1. I need the college to establish a suitable work team and cooperation mechanism to ensure the smooth implementation of various educational quality management work.	4.72	0.23	Highest
2. I need more learning opportunities to improve.	4.76	0.25	Highest

According to Table3, office clerks' assessment in Improving the quality system, Improve the evaluation and inspection mechanism, establishing a sound feedback mechanism, staff training and improvement plan, overall, the perspectives of problems and needs are at the highest level. Among the problems of Improving the quality system "In dealing with teaching quality, there is no effective communication with teachers, students, parents,



government agencies, etc..” was the highest score ($\bar{X}=4.92$, S. D.=0.27) Improving the evaluation and inspection mechanism “In the examination of the teaching plan, the evaluation results are not reliable” was the highest score ($\bar{X}=4.57$, S. D.=0.46) Establishing a sound feedback mechanism “Parents of students lack effective feedback mechanism.” was the highest score ($\bar{X}=4.47$, S. D.=0.55). Staff training and improvement plan “Lack of effective training, training effect is not obvious.” was the highest score ($\bar{X}=4.96$, S. D.=0.29) For the needs of Improving the quality system, “I need to establish more effective communication channels with teachers, students, parents, government agencies, etc. “was the highest score ($\bar{X}=4.89$, S. D.=0.32) For improving the evaluation and inspection mechanism “I need effective evaluation methods to check my own work.” was the highest score ($\bar{X}=4.69$, S. D.= 0.49). For establishing a sound feedback mechanism “I need to establish more effective communication channels with my students.” was the highest score ($\bar{X}=4.89$, S. D.=0.32) Moreover, the needs of Staff training and improvement plan “I need more learning opportunities to improve.” was the highest score ($\bar{X}=4.76$, S. D.= 0.25)

From the analysis of focus group results, the improvement of educational quality management guidelines of Xuancheng Electromechanical College is based on four aspects: Plans, do, check and action. The following are the guiding principles:

A) Plans: Educational administrators should have staff training and improvement plan.

B) Do: Educational institution administrators should improve the quality system, Ensure sustainable improvement of education quality management.

C) Check: Educational institution administrators should improve the evaluation and inspection mechanism and institutionalized management.

D) Action: Educational institution administrators should establish a sound feedback mechanism so that the inspection results can be processed quickly and effectively.

Research Discussion

1. Analysis on the status quo of education quality management in Xuancheng Electromechanical College.

This study studied the current situation of Xuancheng Electromechanical College and found out the problems in education quality management. Data analysis results show that the overall level of education quality is at a relatively high level. Researchers believe that the current high level is due to the fact that the school has set educational goals that meet the national requirements and its own development that is the implementation of the people-oriented education concept, but there are certain defects in the process of implementation and processing. (Kholis and Mardapi, 2021). This study puts forward corresponding solutions



and suggestions for the existing problems, and provides guidance for the development of education quality management in Xuancheng Electromechanical College.

2. The guidelines to improve to quality management of Xuancheng Electromechanical College.

Improvement of the quality system. The main mission of the internal quality system in educational institutions is to develop the importance of quality in all processes, create suitable conditions for increasing the loyalty and professional development of faculty staff, continually improve students' satisfaction, and achieve recognition of educational institutions in the eyes of the public. (Girmanová, Šolc, Blaško & Petřík, 2022). It is necessary to introduce ISO9001 quality management system. The improvement of the evaluation and inspection mechanism. 1) Evaluate objectives and criteria. 2) Evaluate indicators and content. 3) Evaluate methods and tools. 4) Evaluate results and grades. Establish a sound feedback mechanism.

1) Purpose of feedback. 2) Principles that should be followed for feedback. 3) Form of feedback. 4) Feedback channels. The staff training and improvement plan. 1) Training objectives. 2) Training program. 3) Training effect evaluation. 4) Retraining program.

Research Body of Knowledge

The main content of the research is to find out the problems of educational quality management through the four stages of PDCA cycle, and improve the defects in the process of PDCA cycle. The content of the research is mainly related to several aspects of education quality management which are to Improve the quality system. Improve the evaluation and inspection mechanism, establish a sound feedback mechanism, staff training and improvement plan and so on. It is shown in Figure 1.

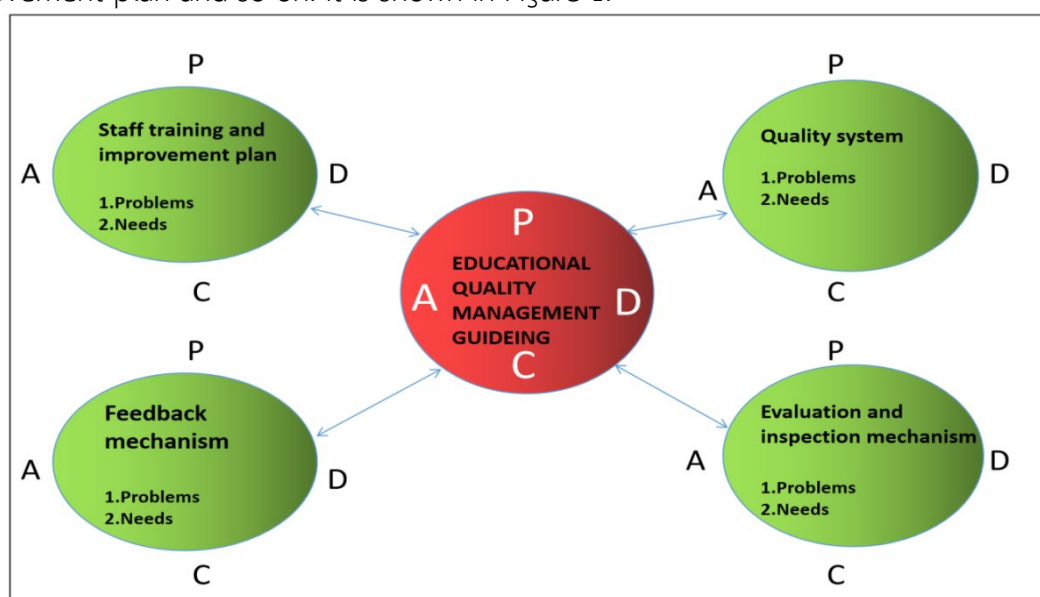


Figure 1. Research Body of Knowledge



Research Suggestion

1. Recommendations of the research for implement.

From the findings of this research. The researcher suggests that Educational Quality Management for sustainable development of resources should be taken into account in the allocation of resources to ensure the effective use of resources. (He, 202). 1) The principle of fairness. All kinds of resources should be equally and fairly distributed to ensure that everyone can enjoy equitable services. 2) The principle of efficiency. According to this principle, resources should be used as efficiently as possible to meet people's needs to the greatest extent possible. 3) The principle of sustainable development. The sustainable development of resources should be taken into account in the allocation of resources to ensure the effective use of resources. and pay attention to the principle of quality, morality and ability. 4) Optimize the position setting and integrate the principles of human resources. Define responsibilities. and Fair competition and reward principle. 5) The principle of integrity requires that the overall interests of the school be taken into consideration. 6) The principle of direction, educational quality as the direction of service. and the principle of objectivity, the basic requirement to ensure objective evaluation. 7) Comprehensiveness should be concerned in all aspects of education quality management.

2. Suggestion for further research.

The quality management process needs continuous improvement and needs more scientific and refined under the guidance of practice.

Therefore, the researcher proposes to conduct research on the following issues. Research to improve development plans for further teaching and education focusing on talent training, improve relevant quality management procedures, further strengthen corresponding control inspections, and further establish specialized control units. Although there are general ideas in some areas, more concrete and feasible designs and examples are lacking. It is hoped that the above three points can be further studied and revised in the future.



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