Study on the Quality Assurance System of Undergraduate Graduation Design Based on the class tutorial system

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Abstract. Graduation design is an important part of undergraduate education in colleges and universities and plays a very important role in the cultivation of comprehensive ability and the improvement of undergraduates’ quality. Based on a class tutor system, the main research idea of undergraduates graduation design quality assurance system in this study was "to find the problems in the undergraduate graduation design → to classify and analyze the problems, to find out the key problems and study them based on the class tutor system → to put forward the solutions for the graduation design based on the class tutor system → to study the trinity management mode → to establish a quality assurance system of undergraduates graduation design based on class tutor system". This mode is expected to be used for the improvement on the quality of graduation design in undergraduates to enable them to successfully complete their graduation practice with the help of class tutors.

Introduction

Graduation design is one of the important links in the undergraduate education in general colleges and universities, a process in which students can consolidate and comprehensively utilize and practice the knowledge that they have learned, and explore the new knowledge in the field, and one of important contents to evaluate the teaching quality and school-running benefit in colleges and universities. Therefore, it is very important to study the graduation design pattern and the quality assurance system to the improvement of the undergraduates’ comprehensive ability and quality training[1].

The contents and evaluation methods of graduation design are different at home and abroad. In our country, the graduation design always mainly takes the major as the starting point, and rarely involves other professional fields, but in foreign contries, students’ ideas and needs are paid more attention to, the selection of the topics is primarily based on students’ interests without the major limitation. In terms of the quality guarantee and evaluation of graduation design, more attention is paid to quantization, details and maneuverability of graduation design, but in foreign countries, students’ self-feeling and the evaluation from the graduation practice units and their colleagues are emphasized. It is believed that the graduation design is beneficial to the cultivation of students' innovative consciousness and ability. In addition, the graduation design is a scientific research
process in which students independently complete it under the guidance of teachers, and during the whole process, teachers should inspire and guide students to work independently, give full play to students' initiative and creative spirit, indicating that the teachers in charge of a class (class tutor) has an important significance to the improvement on graduates’ independent work abilities during the process of graduation design[2].

This study started with the class tutor system; based on the documents related to the class tutor system issued by Beihua University and through the practical teaching process, experts and teachers were selected to serve as the class tutors; how to better improve the graduation design quality system was studied based on the class tutor system in undergraduates; by means of this system, the students were instructed and helped for their learning, planning their practice life, formation of their right value views, and finally successfully completion of their graduation design.

Problems in the Graduation Design of Undergraduates

There are a series of problems in the graduation design at present, but the main problem is that the supervision is not in place, that is, there is no impeccable graduation design quality assurance system and the lack of specific operational norms in the management system[3,4]. First of all, the completion of a graduation thesis is a systematic teaching engineering taking long time and with multiple procedures, so that the careful organization and strict management are the guarantee of graduation thesis. Currently the management systems of some colleges and universities are lack of concrete operation standards, and although the requirements are strict in the form, there is no mechanism for the careful supervision and inspection, urging students to report the design regularly and teachers’ careful guidance in the specific operation, resulting in a mere formality in the management work of graduation design. Secondly, teachers do not pay enough attention to the graduation design and do not try their best to perform the necessary supervision responsibility. Graduation design requires the students to be more independent, the teachers to give a comprehensive and detailed guidance to the students and the teaching methods to be more flexible. If the students make no attempt to make progress and the teacher's sense of responsibility is not strong, it is easy to make the graduation design become a mere formality. Many teachers often take into account students’ difficulty in their employment to relax the quality requirements of their graduation design so that the vast majority of students can pass the review and reply of graduation design. Without pressure on the students, there is no power for them, so that their potential has not been played and the quality of the training is affected. In addition, if the tutors are lax oversight, give a limited energy input, and not to stifle the problem of plagiarism in the bud, an almost completely copied result will be achieved in individual students in the later period of completing the graduation thesis.

Importance of the Class Tutor System

Class tutor system is a new student management mode established for meeting the students’ demand and the reform of educational system in colleges and universities in recent years[5]. The class tutor system occupies a special position in the management system in colleges and universities. the class tutor is different from not only the full-time counselor engaged in the daily management of the students and the ideological and political education, but also the general teacher mainly engaged in teaching, but the assistant counselor responsible for students’ moral education besides the guidance, assistance and supervision on students to complete college academic tasks.
In our undergraduate education, the counselor system and the system of teacher in charge of a class, as a basic management form of student management, is conducive to giving full play to the teacher's leading role. However, because the counselor and teacher in charge of a class have to face a student population, coupled with the emphasis on the common character, over-centralization, synchronization and standardization in classes of some schools, it is difficult to take care of the students' individual differences, not conducive to the cultivation of students' interest and expertise and the full development of students' personality, and even more not conducive to the full communication and mutual understanding between teachers and students, leading to a difficulty to achieve the teaching benefiting teachers as well as students. An important goal of higher education currently is to cultivate students' individuality, innovative consciousness and ability, and healthy personality. The class tutor system can make the group teaching and individual guidance supplement each other, tutors and students can jointly develop students' learning objectives, training programs, and so on, based on the students' interests, needs, and practical level and ability, as well as the academic expertise of teachers, thereby developing an individualized learning and teaching. The class tutor system can change the former dispersed, fragmented and periodical relationship between teachers and students into a new clear, fixed and continuous teacher-student relationship. It can be imagined that at a holiday night, in an office or a tutor's home, several students and their tutor can sit close together to chat from their learning to life and from the today to the future, including the discussion on their professional direction, the design of life goals, showing a harmonious relationship that each other is a friend and also a teacher between them.

**How to Utilize Class Tutor System to Improve the Quality of Graduation Design**

**Investigate into the Present Situation and Find the Problems.** Based on the methods of literature research, field survey, information feedback method and monographic study, the topic selection of graduation design, the communication with the teachers and the management of graduation design were investigated in undergraduate students who were going to do their graduation designs, the causes were studied, and the relevant strategies were analyzed; the management modes used in the graduation design of other colleges and universities were surveyed and studied, in order to draw lessons from their successful experiences, for providing a basis for the follow-up study[6].

Exploration on the graduation design guidance system based on the class tutor system in undergraduates

With the help of QQ group, micro WeChat group and other communication tools, the communication mechanism between the class tutors and the students was studied, involving the information release, troubleshooting, data sharing, online marking, and online voice or video communication, to grasp the progress of students’ graduation design; the assessment indicators for students’ work process recorded from the WeChat groups were discussed; QQ group, WeChat group and other communication tools were established as the links, and the timely exchange and interaction mechanism between the teacher and students was established by taking the class tutor and counselor as a unit, to solve the doubt problems raised by the students, especially for the students who were going to practice or to be trained off-campus, in order to lay the foundation for the successful completion of graduation practice.

**Strengthening the Process Assurance to Construct the Management Mode with A Trinity of the Students, Class Tutor and Counselor.** The workflow of graduation was improved; the responsibility assurance, process tracking assurance and whole-process information assurance mechanisms for the graduation design were studied; the evaluation and quality assurance systems were investigated; the trinity coordination mechanism for the students, class tutor and counselors
were discussed; taking the process assurance as the core, the quality assurance and its systems suitable for the characteristics of undergraduates’ graduation design were explored.

Establishing the Quality Assurance Systems Suitable for the Current Graduation Design Based on the Class Tutor System. First, the normative procedures of graduation design organization management and operation were established based on the class tutor system, in which the reply detailed rules, performance assessment and assessment standards were improved to clear the responsibilities and rationalize the relationship among them. Second, the quality monitoring mechanisms driven by the assessment and appraisal dominated by the class tutors were established, the periodical inspection was carried out regularly according to the process of graduation design, and the quality standards were studied and formulated to implement the quality control. Third, the assessment methods supervised by the teachers for the graduation design were established, in which the evaluation standards for the achievement of graduation design were formulated, in order to comprehensively assess the students, including the quality of the paper, the daily performance and the reply results. The students who plagiarized others’ results fabricated data and experimental results, or any other bad behaviors in the graduation design would be punished severely. The quality control of graduation design was strict and any graduation design that was not up to the teaching requirements was by no means tolerated.

Summary
Based on a class tutor system, the main research idea of undergraduates graduation design quality assurance system in this study was " to find the problems in the undergraduate graduation design → to classify and analyze the problems, to find out the key problems and study them based on the class tutor system → to put forward the solutions for the graduation design based on the class tutor system → to study the trinity management mode → to establish a quality assurance system of undergraduates graduation design based on class tutor system". This mode is expected to be used for the improvement on the quality of graduation design in undergraduates to enable them to successfully complete their graduation practice with the help of class tutors.

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