# Exploration and Reform of Computer Professional Training Mode in Local Engineering Colleges

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**Abstract.** Aiming at the insufficiency of the training mode for computer major in local engineering colleges and universities, combined with the characteristics of local engineering colleges, the paper proposes a reform plan for the practice of personnel training for computer major in local engineering colleges. The aim is to train applied talents adapted to the needs of social development. It provides a reference for further deepening the reform of the personnel training model.

## Introduction

Computer science is one of the basic professional disciplines of local engineering colleges in China, and computer talent plays an important role in the process of industrialization, information, and modernization in China. Although graduates in computer science are very large, there is not much advantage in computer science talents in a competitive society. Social development requires that applied talents in the field of computer science and technology not only have solid theoretical knowledge, but also practical knowledge and actively adapt to and meet the needs of the social. Therefore, the cultivation of software talents in local engineering colleges should proceed from reality, aiming at cultivating application-oriented talents that serve the needs of economic and social development, and establish the correct orientation for education and personnel training models.

## The Status Quo of Computer Major Training Mode in Local Engineering Colleges

**The general definition of personnel training program is not clear.** Although the personnel training program clearly stipulates the personnel training specifications, main disciplines, and major courses, such regulations do not provide guidance for education of the applied undergraduate majors. It only regulates undergraduate professional education in a general sense. It is impossible to start from social needs and reflect its own characteristics, which limits the release of school-running vitality. It is difficult for graduates to form employment competitiveness, which objectively aggravates the contradiction of employment difficulties for graduates.

**Curriculum system design lacks systematic and comprehensive definition.** At present, the curriculum system of most local engineering colleges is mainly formed by mutual learning. The phenomenon of copying and copying is common among school systems, and the overall consideration of the curriculum system design is lacking, making it difficult for the curriculum system to exert its proper control and cultivation of talents. The role does not have its own school characteristics.

**The lack of practical exploration of the curriculum.** Local engineering colleges lack practical exploration for reorienting talent training goals and building a talent training model that is consistent with their own school positioning. Different universities have different regional locations, different levels of local economic development, different industrial structures, and different educational foundations and traditions, white the situation is that the design of personnel training goals of local engineering colleges does not have distinctive local characteristics, and therefore it does not reflect its own advantage.

**Reform and Practice of Computer Professional Training Mode in Local Engineering Colleges**

**Make great efforts to reform and practice the talent cultivation model.** The idea of reform is to introduce new teaching concepts, combine the computer talent training objectives and the specific characteristics and conditions of local engineering colleges, reform regular teaching plans and teaching methods, and closely integrate with software companies to establish new personnel training models and teaching solutions. That is, the "3+1" computer personnel training program is adopted. Specifically divided into: the first stage (first year): computer professional basic knowledge education. It is jointly conducted by corporate teachers and school teachers. The emphasis is on intensive training and the assessment of programming skills. The second stage (second year): the application of computer expertise. At this stage, students participate in a two-month or three-month simulation project training program, employ corporate teachers as the main speakers, and provide school teachers with teaching aids. After the completion of the training, the students are assessed on the second-level project capabilities. This is an important stage in the physical training of students in school. The third stage (penultimate year): Software development training education. We started teaching around software development and professional orientation courses and integrated relevant courses to form a curriculum group and professional learning direction. Students at this stage must choose professional direction for project development training. The fourth stage (final year at college): School-enterprise cooperation project development. Students participate in a one-year training program for corporate internships, participate in the development and operation of the company's actual projects, and enable students to select cooperative projects or participate in in-school tutor projects according to their professional orientation in the vocational field, and complete the undergraduate graduation design (thesis). At the same time, in the last year, employment and practical training were organically combined.

**Reform curriculum system, teaching methods and assessment methods.** In the construction of the computer major software application personnel training course system, we emphasize that professional basic theory teaching should be applied for purposes, and necessary and sufficient for the degree; professional course teaching must be more targeted and practical to clarify concepts and strengthen applications; At the same time, students should have a certain capacity for sustainable development. Penultimate year professional elective courses are divided into several major professional directions. The corresponding curriculum group is set around the professional direction. The curriculum group setting is basic, pertinent, and applicable. It avoids the disconnection between the curriculum and the curriculum, and the theoretical and practical lessons. For example: "Android development of mobile Internet device programming". Although this course is a professional limited selection course, but many students like to choose this course, but it requires Java basis, and the need for development experience, so you can consider the early guidance, later focus on learning.

**Strengthen the guidance and assessment of graduation design.** Graduation design (thesis) is a comprehensive training and practical training before graduation, and it is also a critical period for students to complete the transition from school to society. In recent years, as the number of college graduates has increased year by year, the employment situation has become increasingly severe for general local engineering colleges. In order to improve the employment rate of graduates and the ability to actively adapt to market needs, students can choose the professional orientation courses according to the topic content after determining the topic of thesis. This reform for graduates for a year to carry out the graduation design, for students in-depth research topics, high-quality design completed to provide sufficient time guarantee. At the same time, the college also encourages students to use the first semester of senior year to complete the design in advance to answer.

## Summary

This paper starts from the status quo of the training mode for computer professionals in local engineering colleges, points out the inadequacies of the training mode and the corresponding solutions, and aims to cultivate the applied talents of computer science that is actively adapting to the needs of social and economic development, integrating theory with practice, and being innovative. This is of great

significance to promoting the healthy development of local engineering colleges and ensuring the quality of personnel training.

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