Education Reform and Development, 2024, Volume 6, Issue 5
https://ojs.bbwpublisher.com/index.php/ERD
Online ISSN: 2652-5372
Print ISSN: 2652-5364

Research on the Construction of an Application-Oriented Undergraduate Curriculum System

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Abstract: This paper discusses a series of problems in the construction of an application-oriented undergraduate curriculum system. The paper first defines and analyzes the concept and characteristics of the applied curriculum system, then analyzes the problems existing in the current curriculum system, and puts forward solutions such as strengthening practical teaching, cooperating with the industry, and innovating teaching methods to make beneficial exploration of the applied undergraduate curriculum teaching.

Keywords: Application-oriented curriculum; Curriculum system construction; Practical teaching; Industry cooperation; Innovative teaching methods

Online publication: June 20, 2024

1. Introduction

Curriculum plays a crucial role in the college talent training program and is the basis and guarantee of talent training. Especially for the training of application-oriented talents, it must be implemented in the construction of application-oriented curriculum systems and course teaching, because it directly affects the actual ability and career development of students. This paper will conduct an in-depth discussion on the construction of an application-oriented undergraduate curriculum system from the aspects of the definition of an application-oriented curriculum system, the existing problems and solutions of the current curriculum system, and the analysis of practical cases.

2. The definition and characteristics of application-oriented undergraduate curriculum system

Application-oriented undergraduate curriculum system refers to a curriculum system that aims to cultivate students' applied professional knowledge, skills, and practical ability, combines course content with actual work and life scenarios, and focuses on the cultivation of students' application and innovation ability in practice [1]. The application-oriented curriculum emphasizes the combination of learning content with actual work and

life scenarios, aiming at cultivating students' ability and skills to solve practical problems. Compared with traditional theoretical courses, application-oriented courses pay more attention to the cultivation of practical operation and application abilities to meet the various skills students need in their careers. Its characteristics mainly include the following points below.

2.1. Practice-oriented

Practical orientation is one of the most prominent features of application-oriented undergraduate courses. Its core lies in cultivating students' practical operation ability through practical activities and applying acquired knowledge and skills to practical work and life scenarios. It emphasizes that students apply the knowledge and skills they have learned through practical activities to solve practical problems. This ensures that the knowledge and skills learned are matched with actual work scenarios so that students can adapt smoothly to workplace challenges after graduation [2].

2.2. Career orientation

The application-oriented undergraduate curriculum system is closely related to the demand of the vocational market. The curriculum and teaching content are based on industry standards and vocational needs, and aim to provide students with skills and qualities that are suitable for career development [3]. Through cooperation with industry enterprises, research, and analysis, the school understands the current needs of the job market, and designs and adjusts the curriculum accordingly to ensure that the content learned is closely aligned with the actual job requirements. In addition to imparting professional knowledge and skills, the school also focuses on cultivating students' professional qualities, communication skills, teamwork skills, problem-solving skills, and so on, so that they have the comprehensive abilities needed for successful development in their careers [4].

2.3. Comprehensive teaching

Application-oriented undergraduate courses pay attention to comprehensive teaching methods. In addition to traditional lectures and theoretical courses, it also includes the forms of experiment, practice, case analysis, project design, and so on, to cultivate students' comprehensive ability through various teaching means. Experimental teaching is one of the common teaching forms in application-oriented undergraduate courses [5]. Through experimental operation, students can consolidate the theoretical knowledge learned in class, cultivate experimental skills and practical ability, and deepen the understanding and application of professional knowledge. Practical teaching is an important part of the application-oriented undergraduate curriculum. In the process of internship, students have the opportunity to contact real work scenarios, participate in real projects, learn professional skills, and communicate and interact with industry practitioners, to improve practical ability and professional quality. Case analysis is one of the commonly used teaching methods in applied undergraduate courses. Through the analysis of real cases, students can apply theoretical knowledge in the process of solving practical problems, cultivate the ability of problem analysis and problem-solving, and improve their comprehensive application ability [6]. Project design is one of the important teaching forms of application-oriented undergraduate courses. By participating in the project design and implementation process, students can learn practical skills such as teamwork and project management, and enhance creativity and comprehensive ability through practical exploration and innovation [7].

3. Current situation analysis

In the current process of application-oriented undergraduate teaching, there are some problems in the practice of application-oriented undergraduate curriculum system, which need to be carefully analyzed and solved to

achieve the application-oriented talents training goal.

3.1. Lack of practical links

Some applied undergraduate courses have the problem of disconnection between theory and practice in teaching design. The content of the course is too theoretical, and the lack of practical links combined with the actual work and life scenes makes it difficult for students to apply the theoretical knowledge to the practical operation in the learning process, which affects their practical application ability.

3.2. The curriculum does not match the market demand

Some schools have unreasonable curriculum settings when offering application-oriented undergraduate courses. The course content is too complicated or out of touch with the demands of the job market, resulting in students being unable to concentrate on learning knowledge and skills related to their major during the study process, which affects their career development.

3.3. Rigid teaching method

The teaching methods of some applied undergraduate courses are more traditional, lacking innovation and diversification. Teachers rely on traditional teaching methods and lack opportunities to interact and participate with students, which makes it difficult to stimulate students' learning interest and motivation, which affects the teaching effect.

3.4. Insufficient practice links

The arrangement of practical links in some application-oriented undergraduate courses is insufficient. Although the importance of practical teaching is emphasized, there are deficiencies in the setting and arrangement of practical links, which lead to certain deficiencies in the cultivation of students' practical operation ability and practical ability.

3.5. Lack of teaching staff

Some schools have a shortage of teachers when offering application-oriented undergraduate courses. There is a lack of teachers with rich practical experience and industry background who can effectively guide students' practical learning, which affects the teaching quality of the courses.

3.6. Strict assessment method

The assessment methods of some applied undergraduate courses are relatively simple, mainly in written and oral tests, lack comprehensive assessment and practical ability assessment, and cannot fully evaluate students' comprehensive ability and practical application ability.

4. Theoretical basis for the construction of an application-oriented curriculum system

Liu Yarong, director of the Education Administration Teaching and Research Department of the National Institute of Education Administration, said: "The curriculum system has three value orientations, that is, the discipline center, the social center, and the student center. The discipline center believes that student development should be based on learning valuable human knowledge, which is considered an objective reality that transcends social change and development. The social center believes that social needs define the

goals of student development, directly transplanting typical tasks or typical activities in the field of practice into the curriculum. Student centers regard students as subjects of self-construction and self-creation, respect students' autonomy, usually take students' current needs and interests as the core, and emphasize students' favorite activities as the center to help students develop themselves" [8–10]. Based on this, the construction of the curriculum system should comprehensively consider the three dimensions of discipline orientation, social demand orientation, and student orientation, and conduct a comprehensive analysis of the aspects of curriculum objectives, educational content, content span, content change, content organization and structure, curriculum evaluation, curriculum design, curriculum and teaching implementation, and learning time [11].

In the face of various problems in the current curriculum field, practical curriculum thought is the guiding direction for the current curriculum theory and theorization situation, which is consistent with the idea of Joseph J. Schwab. Schwab is a famous American curriculum expert, educational philosopher, and biologist. Schwab focused on the solution of curriculum problems and advocated connecting theory with practice based on inquiry. Schwab argues that the curriculum's preference for theory erodes the focus on practice, leading to an excessive pursuit of principles and procedures for curriculum development. He proposed that curriculum theorists must move from the pursuit of universal principles to the pursuit of realistic curriculum practices. By their very nature, theories cannot explain everything that is essential to the question of what to teach and who to teach it. That is, theories cannot be used as universal principles to solve the question of how. By boldly questioning the theory, Schwab draws people's eyes back from the grand narrative of the universal principle to the concrete educational situation and curriculum practice and embodies a practical interest in the value orientation. The thought of a practical curriculum provides an effective idea for the logical method of current school reform.

To sum up, this study believes that the construction of an application-oriented undergraduate curriculum system should take professionalism and practicality as its important core, and curriculum content, curriculum implementation, curriculum evaluation, and other aspects should be set around social needs and students' development needs [12].

5. Solution

5.1. Intensification of practical teaching

Practical teaching is an important link in the construction of an application-oriented curriculum system. By strengthening the practice teaching link, students have the opportunity to apply the theoretical knowledge to the practical operation, to better grasp the content. The forms of practical teaching include internships, practical training, projects, and so on. These activities allow students to practice in real scenarios and develop problem-solving abilities and practical skills.

5.2. Work with industry

Working with industry is one of the keys to building an application-oriented curriculum system. Schools can cooperate with industry enterprises to carry out curriculum design and teaching activities, so that the course content is closer to the vocational needs and improve the employment competitiveness of students. Industry cooperation can also provide internship and employment opportunities for students, strengthen the connection between schools and society, and promote a close integration of school education and career development [13].

5.3. Innovate teaching methods

Innovative teaching methods are an important way to improve teaching effect. Schools can explore and adopt new teaching methods, such as project-based learning, problem-oriented learning, and case teaching. These

innovative teaching methods can stimulate students' learning interest and initiative, promote the cultivation of students' thinking ability and innovation abilities, and improve the teaching effect.

5.4. Take student development as the center

The construction of an application-oriented curriculum system should focus on students' individual development and career planning. Colleges and universities need to help students develop comprehensively through curriculum and teaching methods, and cultivate their ability to solve problems, innovative thinking, teamwork, and so on, so that they have the comprehensive qualities needed for successful development in the workplace.

5.5. Strengthen the construction of qualified teachers

Application-oriented undergraduate colleges and universities should strengthen their support for teachers' training and professional development, and improve their teaching level and professional quality. They can also organize academic lectures, seminars, and other activities, and invite well-known experts, scholars, and industry leaders from local and abroad to the university for academic exchanges and experience sharing [14]. This will help teachers broaden their horizons, expand their ideas, and improve their teaching and scientific research capabilities. They can also carry out industry-university-research cooperation projects with local enterprises and scientific research institutions to provide students with practical projects and internship opportunities. This helps to integrate practical work experience and the latest scientific research results into teaching and improve teaching quality [15].

6. Conclusion and prospect

Through the analysis of the construction practice of an application-oriented undergraduate curriculum system, the following conclusions can be drawn. Strengthening practical teaching, cooperating with the industry, innovating teaching methods, and strengthening the training of teachers are all important ways to build an application-oriented curriculum system. The construction of an application-oriented undergraduate curriculum system needs the joint efforts of schools, teachers, and industries. In the future, researchers need to further study and explore the path and method of application-oriented undergraduate curriculum system construction, and constantly optimize the curriculum and teaching mode to better meet the needs of students and social development.

Disclosure statement

The authors declare no conflict of interest.

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