

The guidance and role of life outlook development in practical teaching system

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Abstract: In educational practice, the cultivation of students' outlook on life is one of the important tasks of education. The outlook on life involves students' understanding, attitude, and cognition of learning, life, and self, and has far-reaching influence on shaping students' comprehensive quality. As an important teaching tool, practical teaching can not only impart knowledge and skills but also guide students to reach the closed loop from learning objectives to knowledge application through practical exercises. This paper discusses the guiding role of students' outlook on life in practical teaching and designs a teaching process oriented to the cultivation of outlook on life to provide some reference and inspiration for the practical teaching system.

1. Introduction

Practical teaching is a teaching method that promotes students' learning and development through practical activities, in which students experience the application of knowledge in practice, and is characterized by gradual progress, problem orientation and situational perception [1]. In practice teaching, students can deepen their understanding and mastery of knowledge through practical operation, and improve their problem-solving ability and innovation ability. Compared with traditional classroom teaching, practical teaching can stimulate students' interest and initiative in learning and improve the learning effect and effectiveness. Practical teaching is characterized by its ability to combine theory and practice, so that students can continue to explore in practice, thus better adapting to social needs and future development [2].

The successful implementation of practical teaching comes from teachers' design of the practical teaching system on the one hand, and from students' outlook on life on the other hand, and students' sense of teamwork, achievement sharing, and scientific exploration play an important role in guiding the practical teaching. For example, students who lack a sense of scientific exploration will lack scientificity, accuracy, rigor, and systematicity in the practice process, and the lack of teamwork and the sense of sharing results will affect the condensation and solution of the practice

problems, which will affect the development potential and social adaptability of the students. Generally speaking, outlook on life is students' cognition, attitude, and value orientation towards life, the world, and the self, which contains thinking about the meaning of life, pursuing the goal of life, and choosing the attitude towards life [3]. A healthy and positive outlook on life is crucial to the growth and development of students. The essence of practical teaching is to acquire knowledge and experience through personal experience and experience, which is closely related to the formation of a life outlook. In practice, students not only learn knowledge and skills, but also need to feel the reality of life through practical activities, expand their self-knowledge, and form positive attitudes and values [4].

2. Impact of practical teaching on students' outlook on life

2.1. Enhance students' knowledge and understanding of life

Enhancing students' cognition and understanding is one of the important goals of education, and practical teaching plays an important role in this regard [5]. Through practical activities, students can gain a deeper knowledge and understanding of the meaning, values, and goals of life, so that they can better cope with various challenges and difficulties in their studies and lives.

First of all, practice can provide colorful and authentic scenarios for students to experience the diversity and richness of learning life. In practical courses, students communicate and cooperate with people from different backgrounds, and learn about and experience different ways of life. Through such experiences, students can broaden their horizons and enhance their knowledge and understanding of society, so that they can better adapt and integrate into society. Secondly, practice can help students understand the purpose of learning and develop their teamwork and leadership skills. For example, in team projects, students can better understand the importance and value of interpersonal relationships and better cope with various challenges and difficulties at work through listening, communication, and cooperation. The supportive relationship between practice, cognition, and outlook on life is shown in Figure 1.

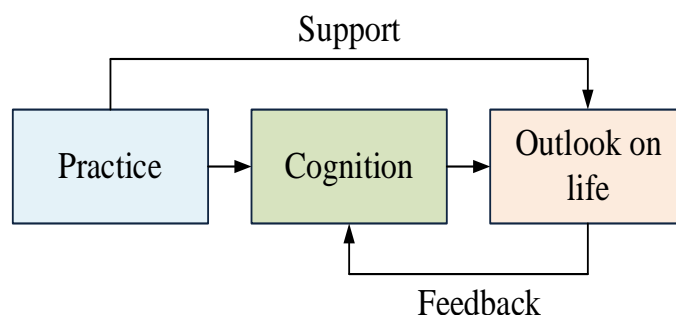


Figure 1: The relationship between practice, cognition, and outlook on life

2.2. Shaping the correct values of students

In practical activities, students look at difficulties and challenges correctly and cultivate their positive attitudes and values, so that they can gradually form and establish correct values and be able to bravely face all kinds of challenges. In practical teaching, teachers should focus on the following aspects.

(1) Practical projects should be value-oriented. For example, in teamwork, students personally experience the significance and value of risking for the team, guiding students to think about the impact of their behavior on others and society, cultivating their sense of responsibility and sense of

mission, and establishing correct social values.

(2) Practical projects should be reflective. For example, in team projects, teachers organize students to cooperate and help each other as a team, and hold regular discussions on team reflection and personal growth. In such reflective activities, students can share their experiences and feelings, understand their strengths and weaknesses, continuously improve their self-knowledge and self-management ability, and establish correct self-values.

(3) The practice program can establish awareness of environmental protection. For example, in practice students participate in the maintenance of laboratory equipment, the organization of laboratory equipment, laboratory cleaning, and other work. Through these activities, students develop a sense of social responsibility and civic awareness and experience the importance and significance of protecting the environment and caring for nature. Students can understand their responsibilities and duties as members of society and establish correct civic values.

(4) Practical projects can promote students' diversified values. For example, in cross-cultural exchange activities, students can communicate and cooperate with classmates from different cultural backgrounds and learn about their lifestyles and values. In such exchange activities, students can respect and accept the differences of different cultures, to broaden their horizons, cultivate an open and tolerant mindset, and establish correct pluralistic values.

2.3. Cultivate students' belief in positive life

Practical teaching provides students with places and opportunities to improve themselves, allows students to experience the fun of knowledge in practice, cultivates students' self-confidence, perseverance, and persistence, and stimulates students' positive beliefs in life. On the one hand, students' understanding and mastery of knowledge are enhanced by applying what they have learned in the classroom to practice. In this process, students will encounter various challenges and difficulties, but through continuous efforts and practice, they will gradually overcome the difficulties, achieve results, and enhance their self-confidence. On the other hand, practical teaching encourages students to take the initiative to think and try to cultivate the spirit of innovation and enterprise. In practical activities, students not only learn to solve problems but also learn to ask questions and explore the reasons and laws behind them. During this period, they realize their potential and ability and enhance their confidence and expectations for the future. Especially important is that during the practical process, students summarize and reflect on their actions and achievements, identify shortcomings, improve their abilities and levels, constantly pursue progress, and form a positive belief in life.

3. Design of practical teaching mode based on the cultivation of outlook on life

3.1. Context creation and experiential learning design in practical teaching

Context creation allows students to participate in the teaching process in a real environment by creating specific practical scenarios. Situation creation should emphasize students' participation and experience when designing, focusing on students' perception and experience, and is a teaching method close to reality. Taking IT enterprise comprehensive practice as an example, students are grouped, each group represents a company, and the student's task is to design and establish a small local area network (LAN) to meet the company's internal communication and data sharing needs. Through the creation of scenarios, students work with their group members to complete tasks, which not only improves students' learning interest and participation but also exercises their teamwork and problem-solving skills, laying a good foundation for their future career development. Set up the practice tasks according to the design in Table 1.

Table 1: Example of integrated practice scenario creation for IT companies

Equipment	Routers, Switches, Twisted pairs, Coaxial cables, Desktops.
Request	Designing network topologies, Configuring network devices, Setting IP addresses, Implementing network connectivity, Ensuring network security.
Task	(1) Design of LAN backbone and individual subnets. (2) Configure routers and switches, set VLANs, IP addresses. (3) Configure file sharing and printing services. (4) Setting up firewalls to protect the network from attacks.

3.2. Problem-oriented and inquiry-based learning

Problem-oriented teaching, allowing students to independently explore the process of solving problems helps to develop students' ability to think independently and their sense of innovation [6]. During this period, students are guided to think about life goals and form a positive outlook on life. Problems in practice can be raised by teachers or originate from students' doubts. For example, inquiry-based learning helps students understand circuit principles and design methods.

(1) Context setting. Students choose a specific circuit design problem as the object of study, such as digital logic circuits, analog circuits, signal processing circuits, and so on. Students will be provided with appropriate laboratory equipment, such as simulation software, oscilloscopes, signal generators, etc., to support their research and practice. Students will be encouraged to use experiments and simulations to gain a deeper understanding of the characteristics and operation of circuits and to solve practical design problems. Students are required to design and implement appropriate circuit solutions, and test and evaluate them, taking into account the practical requirements and constraints of circuit design.

(2) Task Requirements. Students select a specific circuit design problem, e.g. designing a digital clock circuit, designing an audio amplifier circuit, etc., conduct circuit simulation and experimental studies, analyze the characteristics and working principles of the circuit, and identify appropriate circuit solutions. Students are required to design and implement the appropriate circuit scheme, including circuit diagram design, component selection, circuit layout, etc., and conduct testing and debugging to ensure that the stability and performance of the circuit scheme meet the design requirements. Share and exchange research results, present the circuit design scheme and receive evaluation and feedback from peers and teachers.

In the above inquiry-based learning scenarios, students gain an in-depth understanding of the characteristics and working principles of circuits through experimental and simulation studies. During this period, considering the needs and constraints of circuit design, designing circuit solutions, and solving real-world problems not only increased students' learning interest and participation but also honed their problem-solving and innovation abilities.

3.3. Skill Development and Emotional Experience

Skill development and affective experience are two crucial aspects of practical teaching and learning that complement each other and work together to promote students' overall development and growth. Skill development emphasizes students' mastery of specific skills and techniques through experience, and affective experience emphasizes students' feelings and understanding of the significance and value of the knowledge and skills they have learned through emotional engagement. The combination of these two aspects can not only improve students' professionalism and practical ability but also cultivate their emotional awareness and humanistic qualities, thus

promoting their overall development and growth. For example, in engineering design courses, students need to learn and master relevant software and tools, such as CAD software and simulation software, through actual design projects. In programming courses, students need to learn and master programming languages and algorithms through actual programming projects to cultivate their logical thinking and problem-solving abilities.

Emotional experience is another important aspect of practical teaching, which emphasizes students' feelings and understanding of the meaning and value of the knowledge and skills they have learned through emotional involvement and experience. For example, students can participate in a specific engineering design project, such as designing a simple device or system, to experience first-hand the creative process of engineering design. In the course of the project, students need to design and manufacture a device or system that meets the requirements, taking into account the actual application scenarios and needs. Through the actual design and manufacturing process, students can not only deeply understand the principles and methods of engineering design, but also experience the fun and challenges of design thinking and engineering practice. At the same time, students can also share their design results through project presentations and exchanges, and communicate and discuss with classmates and teachers to further deepen their understanding and knowledge of engineering design. Such an emotional experience not only helps students' interest and enthusiasm in engineering disciplines, but also stimulates their learning motivation and creativity, and improves their learning effect and effectiveness.

4. The Challenge of Practical Teaching in the Development of Life Perspectives

The challenges of practicing teaching in the development of a life perspective are multifaceted and include challenges in curriculum design, teaching methods, student engagement, assessment methods, and many other areas.

4.1. Challenges in curriculum design

Practical teaching requires a course design that can combine subject knowledge and practical activities so that students can master theoretical knowledge and apply it in real-life situations. However, it is not easy to design a practical teaching program that is both challenging and able to achieve the teaching objectives. Teachers need to take into full consideration the actual level of students and the background of the subject and design practical tasks that can stimulate students' interest in learning but also have a certain degree of difficulty. At the same time, they also need to consider the feasibility and safety of practical activities to ensure that students can learn and grow safely and effectively in practice.

4.2. Challenges in teaching methods

Practical teaching requires the use of diverse teaching methods so that students can actively participate and explore in practice and gain effective learning experiences from it. However, the selection and application of appropriate teaching methods is a challenging issue. Different practical activities may require different teaching methods to guide and support students' learning. For example, for skill-building practical activities, demonstration explanations and practical exercises may be used to guide students to master the skills; while for inquiry-based practical activities, problem-oriented and inquiry-based learning are needed to guide students to think and explore actively. Therefore, teachers need to flexibly use different teaching methods according to the nature of practical activities and the characteristics of students to achieve the best teaching effect.

4.3. Challenges in student engagement

Practical teaching requires students to actively participate in practical activities, explore, and learn on their own initiative, rather than passively accepting guidance and explanations from teachers. However, the reality is that some students may lack initiative and motivation, and have a lack of interest or low participation in practical activities. This may be due to students' lack of motivation, low self-confidence, or insufficient understanding of the meaning and value of practical activities. Therefore, teachers need to take a series of measures to improve students' participation, such as stimulating students' interest in learning, providing a positive learning environment, and setting appropriate learning objectives, to stimulate students' enthusiasm and initiative in learning.

4.4. Challenges in assessment modalities

Assessment of practical teaching needs to take into account both the practical abilities and skill levels of students and their impact on and shaping of their outlook on life. How to devise assessment methods that are both objective and comprehensive is a challenging issue. Traditional exams and tests often make it difficult to comprehensively evaluate students' abilities and experiences gained in practice, so a combination of assessment methods is needed for a comprehensive evaluation. For example, practice reports, project presentations, and oral defenses can be used to assess students' practical achievements and learning experiences, while peer and teacher evaluations can also be combined to provide a comprehensive assessment, thus providing a comprehensive picture of students' learning and growth.

5. Conclusions

Practice teaching plays an important role in cultivating students' outlook on life, guiding the formation of a positive outlook on life through context creation, problem orientation, practical training, and social practice. However, practice teaching also faces challenges such as the change of teachers' roles and the innovation of teaching methods, which require educators' continuous efforts and exploration. Therefore, we should fully recognize the important role of practice teaching in the cultivation of outlook on life, and actively explore effective teaching methods and means to provide better support and guidance for students' growth and development.

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