

Development and Sharing Mechanism of Intelligent Electronic Technology Course online Teaching Resources

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Abstract: This paper aims to explore the development and sharing mechanism of online teaching resources for intelligent electronic technology courses. Firstly, the demand and importance of online teaching resources of intelligent electronic technology are introduced. Then it puts forward the steps of developing online teaching resources, including course design, multimedia textbook production and online experiment platform construction. Then it discusses the sharing mechanism of online teaching resources, and puts forward some measures such as the establishment of open sharing platform, community cooperation and evaluation, promotion and operation. Finally, the importance of continuous improvement and cooperation is emphasized to promote the development and sustainability of online teaching of intelligent electronic technology courses. The research of this paper has positive guiding significance for providing high quality intelligent electronic technology online teaching resources and promoting the sharing of educational resources.

Keywords: Intelligence; Online teaching; Resource development; Sharing mechanism

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1. Introduction

The rapid development and application of intelligent electronic technology: intelligent electronic technology has been widely used in various fields, such as smart home, Internet of things, artificial intelligence and so on. With the development of technology, the related educational needs are also increasing. The importance of online teaching resources and challenges to traditional teaching methods: Online teaching resources can provide flexible learning styles and personalized educational experiences, regardless of time and place. It poses a challenge to the traditional teaching methods. The purpose of this study is to explore the development and sharing mechanism of online teaching resources for intelligent electronic technology courses in order to improve education quality and learning effect.

2. Demand and importance of online teaching resources for intelligent electronic technology

2.1 Challenges in the current educational environment

Limitations and shortcomings of traditional teaching mode: Traditional teaching mode is usually face-to-face teaching form, limited by time and place, it is difficult to meet the needs of students' personalized learning. It is difficult for teachers to deeply explain complex intelligent electronic technology concepts and practices in limited time. Increased demand from students for online learning resources: There is a growing demand for flexible learning, the ability to set their own learning times and places, and the desire to enhance learning through multimedia materials, experiments, and case studies.

2.2 Advantages and potential of online teaching resources of intelligent electronic technology

Provide flexible learning styles and schedules: Online teaching resources allow students to choose their own learning materials and learning pace according to their individual needs and interests. Students can study according to their own schedule and pace to

improve learning efficiency. Rich multimedia teaching resources and practical opportunities: intelligent electronic technology online teaching resources can provide rich multimedia teaching materials, such as text, audio, video and other forms of teaching materials, to enhance students' learning interest and understanding. At the same time, through the online experiment platform and simulation environment, students can carry out practical operation and case analysis to improve practical application ability.

3. Development of online teaching resources

3.1 Course Design

Determination of learning objectives and contents: Make clear the learning objectives of the intelligent electronic technology course, and clearly incorporate the subject knowledge, skills and abilities into the course design. Making teaching plans and syllabuses: Making detailed teaching plans and syllabuses to ensure the organic connection of courses and the progression of learning. Introduction of project-based learning and practical tasks: Through the introduction of project-based learning and practical tasks, stimulate students' learning interest and motivation, cultivate practical application ability and team spirit.

3.2 Multimedia teaching materials production

Production and editing of teaching videos: Production of teaching videos related to intelligent electronic technology, covering concept explanation, case analysis and experimental demonstration, etc., to provide intuitive learning experience. Design and production of slides and graphic materials: Design attractive and logical slides and graphic materials to assist teachers in explaining and helping students understand the course content. Creation and use of virtual experiment environment: Develop virtual experiment environment, so that students can carry out experiment operation in the virtual environment, and get familiar with the experiment process and skill application.

4. Online teaching resource sharing mechanism

4.1 Establishment of open sharing platform

Create intelligent electronic technology online teaching resource sharing platform: Build a special platform for teachers and students to share and exchange intelligent electronic technology online teaching resources. Provide resource upload, search and download functions: The platform should have the function of uploading teaching resources, and facilitate users to search and download resources, so as to improve the availability and sharing effect of resources. The establishment of intellectual property protection and innovation encouragement mechanisms: ensure that teachers' intellectual property rights are protected, while encouraging innovation and sharing, and provide appropriate incentive mechanisms and incentives for teachers.

4.2 Community collaboration and evaluation

Create an online community and discussion platform: Create an online community where teachers and students can interact and share experiences, providing a platform for mutual assistance and support. Encourage communication and cooperation between teachers and students: Through the platform, encourage interaction and cooperation between teachers and students to promote resource sharing and common progress. Implement mutual evaluation system and evaluation of high-quality resources: Establish a mutual evaluation mechanism, encourage users to evaluate and feedback on resources, and promote the generation and sharing of high-quality resources.

5. Feasibility analysis and implementation strategy

Technical feasibility analysis. For the selection and construction of online teaching platform in the technical feasibility analysis, as well as the application of multimedia teaching tools and experimental platform, the following are some specific suggestions: Research and evaluate multiple online teaching platforms, compare their functions, ease of use and adaptability, and ensure that the selected platform can meet the needs of intelligent electronic technology online teaching resources development and sharing. Pay attention to the stability and scalability of the platform to ensure that it can meet the long-term teaching needs. Ensure that the platform can provide a variety of teaching tools and functions, such as online live broadcasting, recording and playback, interactive whiteboard, etc., to meet different teaching needs. Application of multimedia teaching tools and experimental platforms: Evaluate and select appropriate multimedia teaching tools, such as video editing software, presentation tools, etc., to enhance the diversity and attractiveness of teaching resources. Consider platforms suitable for virtual experiments, such as those based on simulators or simulation technologies, to provide students with the opportunity to conduct experiments online. Pay attention to the ease of use and learning curve of the tool to ensure that teachers and students can use and operate it smoothly.

In general, the technical feasibility analysis stage needs to pay attention to the selection of appropriate online teaching platforms and multimedia teaching tools to ensure that they can meet the needs of intelligent electronic technology online teaching resources

development and sharing, and provide a good learning experience.

6. Practical case analysis

6.1 Our school intelligent electronic technology online teaching resources development and sharing practice

Facing the limitation of traditional teaching mode and the increasing demand of students for online learning resources, our school decided to carry out the development and sharing project of intelligent electronic technology online teaching resources. The implementation process of resource development and sharing mechanism: The school has established an interdisciplinary resource development team, focusing on the development of various forms of teaching resources, including video courses, slides, experimental simulation platforms, etc. Resource development and sharing using an open sharing platform, teachers can upload the developed resources to the platform and share with other teachers and students. The platform provides search and download functions, and users can freely obtain resources according to their needs. Effectiveness evaluation and user feedback: Through regular effectiveness evaluation and user feedback, the school learned that the development and sharing of online teaching resources has a positive impact on student learning outcomes. Students report rich resources, easy access, and the ability to learn at their own pace and interest. Teachers also get more communication and cooperation opportunities through resource sharing, which improves teaching quality and professional development.

6.2 Case summary and experience sharing

In this case, the intelligent electronic technology online teaching resource development and sharing project implemented by our school has achieved certain successful experience. Key experiences include building interdisciplinary resource development teams to integrate resources and strengths; Select the appropriate resource development and sharing platform to ensure the availability and sharing effect of resources; Regular performance evaluation and user feedback, adjust and improve resource development and sharing strategies. Summarizing these experiences can provide reference for other schools or institutions in similar projects.

7. Challenges and Solutions

7.1 Teachers' technical ability and resource support

Provide training and professional development opportunities: Provide teachers with regular training and professional development opportunities to enhance their online teaching technology capabilities and resource development. Establish a dedicated technical support team: Establish a dedicated technical support team to provide real-time technical support and guidance for teachers to solve technical problems and difficulties encountered in the online teaching process.

7.2 Student engagement and motivation

Introduction of project practice and practical cases: Project practice and practical cases are incorporated into online teaching resources to stimulate students' learning interest and motivation, so that learning is closer to practical application. Design personalized learning paths and assessment methods: According to students' individual needs and learning abilities, design different learning paths and assessment methods, provide personalized learning experience and feedback, and increase students' participation and learning motivation.

8. Conclusions

Main research findings and contributions: Through the research on the development and sharing of online teaching resources of intelligent electronic technology, important contributions are mainly found in the following aspects: The establishment of online teaching resource sharing platform of intelligent electronic technology promotes the development and sharing of resources, and improves the teaching effect and learning experience. Community collaboration and evaluation mechanisms have been implemented to promote communication and cooperation between teachers and students, and to encourage the sharing of quality resources. Training and professional development opportunities are provided to enhance teachers' online teaching technology capabilities and resource development. It solves the challenges of teacher technical ability and resource support, student engagement and learning motivation, and platform and device compatibility, and provides corresponding solutions.

References:

- [1] WEI Hong. Exploration of the construction of Electronic Technology Course teaching resource base [J]. The Book of Mountains and Seas: A Story (Part 1),2017(6):1.
- [2] Tang Weipei. Research on the Development of school-based teaching resources of Electronic Technology in Higher Vocational Education [J]. Prose Hundred,2018(12):191-191.

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