

Research on the Construction of Virtual Teaching and Research Room based on Audit Course

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ABSTRACT

With the rapid development of information technology, traditional audit course teaching is facing many challenges. This article aims to explore the application of virtual teaching and research rooms in the teaching of auditing courses, analyze the difficulties of traditional auditing course teaching, study the advantages of virtual teaching and research rooms, including improving teaching quality, promoting balanced allocation of resources, and achieving integration of industry and education. Specific construction paths are proposed to improve the quality of education and teaching, optimize teachers' professional abilities, and promote balanced allocation of educational resources.

KEYWORDS

Auditing; Virtual teaching and research room; Educational technology; Reform in education

1. INTRODUCTION

In today's world where information technology is increasingly permeating various fields, the traditional teaching mode of auditing courses is no longer able to meet the needs of education in the new era. Virtual teaching and research rooms, as an emerging teaching model, provide a new solution for the teaching of auditing courses with their unique advantages. This article will first analyze the current situation and difficulties of traditional audit course teaching, then explore the advantages of virtual teaching and research room construction, and propose specific construction paths.

2. CURRENT SITUATION AND DIFFICULTIES IN TEACHING TRADITIONAL AUDITING COURSES

2.1. Weak Foundation in Prerequisite Courses

Studying auditing courses requires students to have a solid foundation in accounting and financial management before starting to learn basic auditing theories and methods. However, the reality is that many students have a weak foundation in the prerequisite courses when entering audit courses, which directly affects the learning effectiveness of subsequent courses.

Many concepts and principles used in audit courses, such as financial statement analysis and internal control assessment, are based on accounting and financial management. If students do not have a solid understanding of accounting standards, financial statements, and financial analysis, it will be difficult for them to comprehend the deeper meaning of auditing and to put auditing techniques into practice. Due to poor mastery of prerequisite courses, some students are unable to keep up with the

pace and pace of auditing courses. Therefore, students with poor basic knowledge are also prone to feeling discouraged, leading to a loss of interest and motivation in learning.

2.2. The Teaching System is Relatively Closed

Traditional audit courses are often limited to course lectures, and this model is not closely related to actual audit practice, making it difficult for students to combine theoretical knowledge with practice in the learning process. The closed nature of the learning system limits students' opportunities to broaden their horizons, which is reflected in the following aspects:

2.2.1. Outdated Education Model

Traditional classroom teaching is teacher centered, with students being more passive and lacking opportunities for independent exploration and thinking. Teachers teach the basic principles and workflow of auditing in the classroom, but often lack the support of practical operation cases, which hinders students from having a deeper understanding of the complexity and diversity of auditing.

2.2.2. Delayed Teaching Content

Due to the closed teaching system, the update progress of course content is slow and not in line with the development of auditing practice. With the changes in the market economy, the auditing industry continues to develop, and new auditing standards, criteria, and methods are being released one after another. The traditional teaching system cannot reflect these changes in the curriculum, and students' knowledge structure does not meet the needs of the industry.

2.2.3. Insufficient Practical Operation Training

The closure of the teaching system is also reflected in the knowledge structure of teachers. Many teachers who teach auditing courses, although possessing profound theoretical knowledge, clearly lack practical experience in auditing. Therefore, insufficient practical training for students in the teaching process is not conducive to their mastery and application of auditing business skills.

2.3. Teaching methods are relatively outdated

With the rapid development of information technology, the field of education has undergone profound changes, and learning methods are constantly updated and enriched. However, due to the fact that many audit courses still rely heavily on traditional teaching methods and lack interactivity and innovation, it is difficult to arouse students' interest in learning.

2.3.1. Lack of Interactivity

In traditional auditing classrooms, teachers play a central role and students' behavior is passive. In this way, the teacher controls the entire class and students are unlikely to participate, resulting in a heavy learning atmosphere throughout the class. As a highly practical discipline, the one-way output teaching method of auditing hinders students' understanding of the complexity and applicability of auditing courses. The non interactive teaching mode can also make it difficult for teachers to understand students' learning needs and mastery, which in the long run will inevitably affect the teaching effectiveness of teachers and the learning effectiveness of students.

2.3.2. Lack of Innovation

The lack of innovation in traditional teaching methods has led to a rapid disconnect between the content of auditing courses and the actual needs of auditing work. In the era of information technology, new concepts, methods, and tools have always been proposed in the field of auditing. However, if the teaching content in the classroom still follows the rules and regulations, it will not meet the actual needs of students' future auditing work.

2.4. Uneven Distribution of Educational Resources

The uneven distribution of educational resources has always been a problem in the education industry, which is very serious in the teaching of auditing. Top financial and economic universities occupy excellent teaching resources, including experienced teachers, updated textbooks and teaching aids, as well as advanced experimental facilities, while other universities are clearly at a disadvantage in these areas.

2.4.1. Uneven Distribution of Teaching Staff

Top universities often attract high-quality teachers who have rich experience in teaching and practical methods, while other schools have very few high-quality faculty members, which greatly affects the effectiveness and quality of auditing education.

2.4.2. Uneven Distribution of Textbooks and Teaching Aids

Schools with strong teaching staff are often able to develop high-quality textbooks and teaching aids on their own. Teachers use high-quality and advanced textbooks for teaching, while students use new versions of teaching aids for consolidation after class. Other institutions can only purchase published books from the market, which undoubtedly has a strong lag and cannot have textbooks that fully match the market employment environment.

2.4.3. Uneven Distribution of Practical Training Conditions

Top universities generally have sufficient financial appropriations, which undoubtedly provides financial support for the construction of practical and training bases. The completed training bases have advanced equipment and a complete range of software types; However, other universities find it difficult to allocate more funds to build practical training bases. Even if practical training bases can be built, most of them still use outdated equipment that has been phased out by other colleges in the school. This leads to frequent problems during practical teaching, making it difficult to ensure the effectiveness of practical training.

2.5. The Construction of Training Bases Lags Behind

As a highly practical discipline, auditing requires the integration of theoretical knowledge with practical operations in order for students to effectively grasp the skills and techniques of auditing. Therefore, practical training has become an indispensable part of auditing education, which can help students transform abstract theories into concrete practical experience, thereby deepening their understanding of auditing processes and methods. However, the actual situation is that many universities have shown significant lag in the construction of practical training bases, which seriously restricts the satisfaction of students' practical training needs.

2.5.1. Insufficient Number of Bases

The insufficient number of audit training bases in some universities is a prominent issue. With the continuous expansion of enrollment in universities, the existing training bases are unable to accommodate the gradually increasing number of students, resulting in a shortage of training opportunities. Many students find it difficult to obtain sufficient training opportunities during their school years.

2.5.2. Outdated Base Facilities

The outdated facilities and outdated software configuration of the training base also constrain the teaching effectiveness of the training base. Although many schools have practical training bases, they use outdated equipment and often experience lagging and crashes; The school's insufficient investment in software updates, slow software update speed, inability to install new audit software, or inability to operate normally after installation, undoubtedly affect the teaching effectiveness of the training base.

2.5.3. Weak Teaching Staff

The teaching staff of the training base also needs to be strengthened. Many teachers in the training base hold other positions and have teaching and research workload requirements. In terms of training base management, they not only lack time but also experience, which will inevitably lead to a significant decline in the effectiveness of students' training.

3. THE ADVANTAGES OF VIRTUAL TEACHING AND RESEARCH ROOMS IN THE CONSTRUCTION OF AUDITING COURSES

3.1. Improving the Quality of Education and Teaching

Virtual teaching and research rooms, as a new type of educational teaching model, have significant advantages. It can effectively integrate high-quality teaching resources and provide an efficient and convenient online teaching environment for teachers and students.

3.1.1. Integrate High-quality Resources

The virtual teaching and research room gathers various high-quality teaching resources through online platforms, including lesson plans, courseware, videos, exercises, etc. These resources have been screened and optimized to ensure the high quality of teaching content. Teachers can flexibly select these resources according to teaching needs, enrich classroom teaching content, and improve teaching effectiveness. The virtual teaching and research room provides rich learning materials to help students broaden their knowledge and improve their self-learning ability. Students can learn various courses online according to their interests and needs, making full use of fragmented time and improving learning efficiency.

3.1.2. Implement Personalized Teaching

The interactive tools of the virtual teaching and research room provide a real-time communication platform for teachers and students. Teachers can timely understand students' learning situation and provide targeted guidance through online discussions, Q&A sessions, homework grading, and other methods. Students can also seek advice from teachers at any time to improve their learning outcomes. By analyzing students' learning data, teachers can understand their learning characteristics and develop personalized teaching plans. At the same time, students can choose appropriate learning content and difficulty levels based on their own progress and abilities, achieving personalized learning.

3.1.3. Promote Educational Reform and Innovation

Virtual teaching and research rooms can help promote educational reform. The online teaching platform of the virtual teaching and research room breaks the time and space limitations of traditional classrooms, allowing teachers to better play a leading role and guide students to actively explore and cooperate in learning. At the same time, virtual teaching and research rooms provide rich practical scenarios for educational innovation, which helps to explore new educational teaching methods.

3.2. Breaking through Traditional Temporal and Spatial Limitations

The rise of virtual teaching and research rooms has completely broken the temporal and spatial limitations of traditional teaching, bringing revolutionary changes to education and teaching. In traditional teaching models, students and teachers are often limited by fixed classrooms and class times, but the emergence of virtual teaching and research rooms has fundamentally changed this situation.

For students, virtual teaching and research rooms mean that learning is no longer limited by location. Students can access rich learning resources anytime, anywhere through devices such as computers,

tablets, or smartphones at home, in the library, or even anywhere with internet connectivity. This flexibility not only facilitates students' learning and life, but also greatly improves learning efficiency. Students can choose their own learning content and pace according to their own schedule and study habits, thus achieving personalized learning.

For teachers, virtual teaching and research rooms allow them to overcome geographical limitations and provide teaching and guidance. Both domestic and international experts and scholars, as well as teachers from different regions, can use the virtual teaching and research room platform to jointly explore teaching methods, share teaching experience, and improve teaching level. This cross regional collaboration not only enriches teachers' teaching resources, but also promotes the balanced distribution of educational resources.

3.3. Optimize Teachers' Professional Abilities

The establishment of virtual teaching and research rooms provides teachers with a new platform for academic exchange and teaching and research activities, greatly expanding their professional development space. On this platform, teachers can participate in a wider range of academic exchanges and research activities without being limited by geography, time, and resources, thereby optimizing their professional abilities.

3.3.1. Implement Online Communication

Virtual teaching and research rooms enable teachers to easily communicate with peers both domestically and internationally. Through online seminars, online forums, video conferences, and other forms, teachers can communicate in real-time with experts and scholars from different regions, share teaching experiences, and discuss academic issues. This kind of communication helps teachers broaden their horizons and absorb advanced educational concepts and teaching methods.

3.3.2. Provide Teaching Resources

The virtual teaching and research room provides teachers with abundant teaching and research resources. Teachers can access a large amount of educational research literature, teaching cases, courseware resources, etc., which help them improve their professional knowledge and teaching skills. At the same time, teachers can also participate in research projects, project collaborations, and other activities through virtual teaching and research rooms to enhance their research and innovation abilities.

3.3.3. Proactive Self-improvement

The interactivity and feedback mechanism of virtual teaching and research rooms can help teachers timely understand their teaching effectiveness and continuously adjust and optimize teaching strategies. Through peer evaluation, student feedback, and other channels, teachers can objectively understand their teaching strengths and weaknesses, and then carry out targeted self-improvement.

3.4. Promote Balanced Allocation of Resources

Establishing virtual teaching and research rooms can promote the sharing of high-quality teaching resources, which is of great significance for narrowing the education gap and improving educational equity. On this platform, high-quality educational resources can transcend geographical and institutional boundaries, enabling students from different regions and institutions to enjoy more equal educational opportunities.

3.4.1. Implementing Resource Sharing

Through Internet technology, the virtual teaching and research section digitizes and shares high-quality teaching resources of famous schools, such as high-quality courses, excellent teaching plans, classic cases, etc. In this way, students from remote areas and schools with relatively scarce resources

can also access first-class teaching content and enjoy the same teaching resources as students from prestigious universities. This sharing is not limited to course content, but also includes teaching methods and teaching concepts, thereby improving the overall quality of education.

3.4.2. Develop High-quality Courses

The virtual teaching and research room provides a platform for teacher collaboration between different universities. Teachers can jointly develop courses, write textbooks, design experiments, etc. This collaborative model helps to integrate the advantageous resources of each school, form a richer and more diversified teaching system, and enable students to acquire knowledge in a wider range of fields.

3.4.3. Narrowing the Regional Education Gap

The resource sharing of virtual teaching and research rooms is of great significance in promoting educational equity. Students can choose suitable learning resources and develop personalized learning plans based on their interests and needs. This learning method can stimulate students' interest in learning and improve learning efficiency. It provides equal learning opportunities for all students, and regardless of their location, they can access high-quality educational resources through virtual teaching and research rooms, which helps narrow the educational gap between regions.

3.5. Achieving Deep Integration of Industry and Education

Establishing a virtual teaching and research room can provide a new model for education and teaching, as well as open up new paths for school enterprise cooperation. Especially in the teaching of audit courses, the use of virtual laboratories can not only closely cooperate with enterprises to introduce actual audit cases and achieve deep integration of industry and education, but also improve students' practical abilities and professional qualities.

3.5.1. Provide New Teaching Models

Through the platform of virtual teaching and research rooms, enterprises can share real audit project cases with teachers and students. These cases often involve complex audit environments, diverse audit issues, and specific audit procedures, which can enable students to be exposed to practical work challenges in the classroom and enhance the pertinence and practicality of learning.

Virtual teaching and research rooms can invite audit experts from enterprises to participate in teaching activities. Through online lectures, seminars, and other forms, students can directly learn the latest audit techniques and practical experience from industry experts. This form of teaching not only increases the depth of the course, but also enables students to better understand the practical operation of audit work.

3.5.2. Cultivate High-quality Talents

The virtual teaching and research room can simulate a real audit work environment, allowing students to conduct audit practice operations in the virtual environment. This simulation practice can exercise students' auditing skills, improve their ability to solve practical problems, and lay a solid foundation for entering the workplace in the future.

Virtual teaching and research rooms under school enterprise cooperation can also provide students with opportunities for internships and employment. Through close cooperation with enterprises, teachers and students can better understand the needs of enterprises, and enterprises can also discover and cultivate potential talents in this process.

The integration of industry and education in virtual teaching and research rooms helps schools adjust teaching content and methods in a timely manner, making them more in line with the needs of industry development. This dynamic adjustment can ensure that education is not divorced from reality and cultivate high-quality talents who are more adaptable to social and market demands.

4. CONSTRUCTION PATH OF VIRTUAL TEACHING AND RESEARCH ROOM BASED ON AUDITING COURSES

4.1. Strengthen Education and Teaching Research

The construction of virtual teaching and research rooms is a systematic project that requires a team of teachers to conduct in-depth research on education and teaching, especially in practical professional fields such as auditing. In order to ensure that virtual teaching and research rooms can effectively improve teaching quality, it is necessary to first strengthen educational research and explore a set of online teaching models and methods suitable for auditing courses.

4.1.1. Clarify Teaching Objectives

The construction of a virtual teaching and research room requires the teacher team to have a clear understanding of the teaching objectives, content, and process of auditing. This requires teachers to conduct in-depth analysis of the existing auditing curriculum system, identify which parts are suitable for online teaching, which parts require offline practice, and how to effectively combine the two.

4.1.2. Combining the Characteristics of Online Teaching

The teaching team needs to study the characteristics of online teaching, explore how to use the platform and technology of virtual teaching and research rooms, and design online courses that meet the teaching needs of auditing. This includes but is not limited to developing interactive teaching activities such as group discussions, case studies, role-playing, and utilizing multimedia and virtual reality technology to enhance teaching effectiveness. Regarding the practicality of auditing, the virtual teaching and research room should study how to integrate actual audit cases into online teaching.

4.1.3. Development Evaluation and Feedback Mechanism

The teaching team also needs to explore effective online evaluation and feedback mechanisms. How to accurately evaluate students' learning effectiveness and provide timely and effective feedback in virtual teaching and research rooms is the key to improving teaching quality. This may require the development of online testing, assignment submission and grading, interactive Q&A, and other systems.

4.1.4. Regularly Organize Course Training

The construction of virtual teaching and research rooms should also focus on the professional development and skill training of teachers. Teachers need to master the relevant technologies and methods of online teaching, therefore, regular workshops and training courses are essential. The teaching team needs to continuously learn and optimize online teaching modes and methods based on student feedback, teaching effectiveness evaluation, and new requirements of industry development.

4.2. Co Building High-quality Course Resources

In order to improve the teaching quality of auditing courses, virtual teaching and research rooms can collaborate with universities, enterprises, and other parties to jointly build high-quality teaching resources for auditing courses. This collaborative model can gather professional knowledge and practical experience from all parties, thereby creating rich teaching resources including textbooks, cases, videos, etc.

4.2.1. Textbook Construction

In terms of textbook construction, virtual teaching and research rooms can collaborate with universities to organize a group of professors and experts with rich teaching experience and practical

backgrounds to jointly develop audit textbooks suitable for online teaching. These textbooks should not only cover the basic theoretical knowledge of auditing, but also integrate the latest auditing standards and practical operations based on practical work needs.

4.2.2. Case Resources

In terms of case resources, virtual teaching and research rooms can collaborate with enterprises to introduce their actual audit cases into teaching. These cases can be successful audit cases provided by enterprises, or they can be difficulties and challenges encountered during the audit process. By analyzing these cases, students can better understand the application of audit theory in practical work.

4.2.3. Video Resources

In terms of video resources, the virtual teaching and research room can produce a series of teaching videos on auditing, including theoretical explanations, case analysis, audit process demonstrations, etc. These videos can be jointly recorded by university teachers and corporate audit experts to ensure the authority and practicality of the video content.

At the same time, in order to ensure the continuous updating and optimization of teaching resources, the virtual teaching and research room should establish a resource updating mechanism. This includes regularly collecting feedback from university teachers and businesses, adjusting teaching content based on the development trends of the auditing industry, and utilizing big data analysis to continuously improve teaching resources by analyzing students' learning habits and needs.

4.3. Exploring New Forms of Teaching and Research

In the context of the information age, exploring new forms of teaching and research is of great significance for improving teachers' teaching and research abilities and teaching levels. New forms of teaching and research such as online seminars and virtual workshops can not only break the limitations of geography and time, but also promote deep communication and cooperation among teachers, thereby comprehensively enhancing their professional competence.

4.3.1. Conduct Online Seminars

Online seminars, as an efficient form of teaching and research activities, allow teachers to communicate their teaching experiences and share research results in real-time through online platforms. This form of seminar does not require teachers to go out, saving time and costs, while also facilitating the attraction of more teachers to participate. By regularly hosting online seminars, teachers can stay up-to-date with the latest developments in the field of education, learn advanced teaching concepts and methods, and enhance their teaching and research abilities.

4.3.2. Establish a Virtual Workshop

Virtual workshops provide a more interactive and practical teaching and research environment. In virtual workshops, teachers can conduct in-depth discussions around specific teaching themes, practice new teaching strategies and technologies through simulation teaching, role-playing, and other methods. This immersive experience helps teachers transform theoretical knowledge into practical teaching abilities, improving the pertinence and effectiveness of teaching design.

In addition, new forms of teaching and research can also include online teaching and research communities, online teaching and research teams, etc. These platforms encourage teachers to collaborate across disciplines and schools, jointly carry out teaching research projects, and promote teaching innovation. Through these platforms, teachers can learn from each other, motivate each other, and create a good teaching and research atmosphere.

4.4. Building a Course Sharing Platform

Building a course sharing platform is of great significance in promoting the effective utilization and widespread dissemination of audit course resources. This platform can provide a convenient and efficient environment for teachers and students to exchange and share resources, thereby improving teaching quality and learning outcomes. The course sharing platform should support uploading and downloading course resources in multiple formats, including lesson plans, courseware, video lectures, exercise banks, case analysis, etc. This not only enriches the variety of resources, but also meets the needs of students with different learning styles and requirements. In terms of platform functional design, the following aspects can be included:

4.4.1. Resource Upload and Download

Teachers can upload high-quality resources they have created or collected, and students can download learning materials as needed.

4.4.2. Online Interaction

The platform should have a comment or discussion area where teachers and students can communicate and discuss under the resources section to promptly address any questions they may have during learning.

4.4.3. Resource Evaluation

Users can evaluate and provide feedback on resources, helping other users filter high-quality resources, while also motivating teachers to continuously optimize teaching content.

4.4.4. Personal Center

Teachers and students can manage their own resources, track learning progress, view history and download records.

4.5. Establish a Course Training Base

Establishing a training base for auditing courses in cooperation with enterprises is an important way to enhance students' practical abilities and promote the combination of theoretical knowledge and practical application. This cooperation model not only provides valuable practical opportunities for students, but also helps enterprises cultivate potential excellent audit talents, achieving a win-win situation between education and industry.

The establishment of training bases should fully consider the actual needs of enterprises and the growth needs of students. The following are the specific implementation steps:

4.5.1. Signing of Cooperation Agreement

Schools and enterprises sign cooperation agreements to clarify the rights and obligations of both parties, ensuring the long-term stable operation of the training base.

4.5.2. Design Practical Training Projects

Design a series of practical training projects based on the teaching syllabus of auditing and actual cases of enterprises, allowing students to learn and exercise in real work environments.

4.5.3. Provide Professional Guidance

Experienced auditors dispatched by enterprises serve as training mentors to provide professional guidance and feedback to students, helping them quickly master audit skills.

4.5.4. Practical Operation Opportunities

Students can directly participate in the audit work of enterprises at the training base, including financial statement analysis, internal control evaluation, audit procedure execution, etc., thereby enhancing their practical abilities.

5. CONCLUSION

The construction of virtual teaching and research rooms is an important direction for the teaching reform of auditing courses. By strengthening educational and teaching research, jointly building high-quality course resources, exploring new forms of teaching and research, building course sharing platforms, and establishing course training bases, the educational and teaching quality of auditing courses can be effectively improved, teachers' professional abilities can be optimized, and the balanced distribution of educational resources can be promoted. In the future, with the further development of technology and continuous innovation of educational models, virtual teaching and research rooms will play a greater role in the teaching of auditing courses.

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