



# Research on the Teaching Reform of Auditing Course based on Four-Dimensional Integration

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## Abstract:

To strengthen audit learning professional course reform and practicability, this paper strives to cultivate applied audit talents. According to the analysis of current accounting auditing courses teaching and educational reform necessity, we focus on the optimization of curriculum content, teaching method innovation, audit case teaching and curriculum evaluation of four dimensions, and have constructed a four-dimensional integration system of audit course teaching reform with "course + case + training + assessment". The research proposes a corresponding solution measure and provides a theoretical basis for audit teaching reform and train of thought for reference.

**Keywords:** *Auditing; Four-dimensional fusion; educational reform.*

## 1 INTRODUCTIONS

Research on teaching reform in auditing courses has focused both on the macro level such as teaching mode, curriculum, course resources, and talent training in auditing, and on the micro-level which mainly focuses on the evaluation of curriculum system, exploration of practical teaching, and interaction between different course subjects [1] [2] [3]. For example, Gibbs [4] believed that the use of adaptive hypermedia courseware can promote learners' motivation and learning achievement through a combination of teaching methods. [5] have systematically researched the three-dimensional integration of "course + case + practical training". based on the systematic research. they deeply explored the nature of teaching sensitivity, triple representation, value utility, influencing factors, and generation paths. In addition, Anandarajan, 2011) [6] studied the reform of auditing classroom teaching mode based on the Problem-Based Learning method (PBL) and mind mapping strategies. From the current research, there are more theoretical studies on the single teaching mode of auditing courses, and there are also specific practical steps and links to study, but they are not targeted and systematic enough, and there is also a lack of comparative studies to learn. Based on the existing literature, this paper constructs a new teaching system for auditing courses under multi-dimensional integration for the current situation of teaching auditing courses of accounting in local engineering colleges and universities, which is a new attempt.

## 2 PROBLEMS IN TEACHING AUDIT COURSES

### 2.1 *Pan-theoretical Curriculum and Teaching Mode*

Emile believes that "If teaching theory is detached from teaching practice, it cannot or will not guide practice well. And this then forms a vicious circle, which eventually becomes a confusion of education", [7] [8]. The basic theoretical concepts of auditing are scattered and abstract, obscure, and difficult to understand; the teaching content is too specialized; the theory is empty and abstract; the students' acceptability is weak, and the practice guidance is not much. The teachers take "speculative knowledge" as the goal of teaching and one-sidedly centralize theoretical knowledge, which exacerbates the lack of understanding and practical ability of students. In addition, the current teaching mode, which separates theory and practices teaching makes classroom teaching lack effective simulation situations, which makes it difficult for students to understand deeply and consequently makes it difficult for them to adapt to the problems and challenges in the workplace, and hard to seek methods and effective ways to solve problems on their own.

### 2.2 *Audit course in the era of "Internet + "Education with insufficient teaching content and serious lag*

On the one hand, in the context of the "Internet+" era, the audit industry has been achieving continuous leapfrog development to information management

systems by applying modern information technology from relying on theoretical knowledge of auditing and computerized system, and the construction of open modern audit information systems has taken shape and has been applied firstly in the advanced technology industry. On the other hand, the knowledge and skills of auditing no longer depend solely on traditional classroom teaching, and the open educational resources (OER) such as “MOOC”, “micro-lessons”, “Bilibili”, “Youdao”, “Netease”, and “Google” are available. However, the current teaching content and teaching level of most colleges and universities in the auditing profession have not kept up with the current development of accounting informatization in China. Firstly, there are few categories of information technology courses in the auditing profession. The information technology courses of auditing majors are few and do not constitute a complete system, lacking the training of comprehensive information literacy and application skills, which can hardly meet the urgent requirement of information technology knowledge for auditing talents. Secondly, the auditing information technology courses are relatively isolated from the traditional professional curriculum, lacking effective connection. Additionally, the auditing majors have relatively limited credit hours, focusing mostly on basic theories and basic methods. While for the complex auditing business under multiple modules, the course is rarely involved.

### **2.3 Single assessment and evaluation method**

The assessment and evaluation of auditing courses is the key index to evaluate the teaching results. However, in the real evaluation system, the evaluation mode of “emphasizing the result but not the process” is particular common, which cannot objectively reflect the shortcomings in teaching and hinder the improvement of teaching effectiveness, which mainly manifested in three aspects. One is the unreasonable design of evaluation indexes. The programmed setting of evaluation indexes is prominent, focusing on the importance of knowledge and ignoring the relevance of teaching design, classroom content, and professional learning, leading to a serious utilitarian mentality of teachers and a single teaching process; the second is the imperfect evaluation system, reflected in the failure to form closed-loop feedback on evaluation results and the lack of systematic solutions to teaching defects and problems; the third is the evaluation. The purpose of an evaluation is not systematic, most of the current teaching evaluation is often “summative” rather than a link set for the next development of teaching, which makes it difficult to play the diagnostic role of teaching evaluation on teaching, and even more difficult to promote the continuous improvement of teaching effectiveness. In addition, although most colleges and universities keep trying to reform the assessment and evaluation methods, when in practice, teachers still tend to take paper examinations in a step-

by-step approach, and result in the phenomenon of “more closed-book examinations and less open-book examinations; more rote memorization and less practical tests; more emphasis on theory and less on practice and less on skills” is very common, which leads to the student’s insufficient practical skills, the contradiction of “difficult employment” and “low-quality employment” of audit students.

## **3 THE DIRECTION OF AUDIT COURSE REFORM**

### **3.1 Optimize the course content**

Teaching content, the core part of the teaching of auditing courses, directly affects the quality of teaching and training. In the context of the “Internet +” era, the content of auditing courses can be optimized from the following aspects: First, systematically optimize the syllabus and course design; pre-map the depth and breadth of knowledge mastered by students through the OER teaching approach combined with the existing teaching materials to better achieve the teaching objectives. The second is to optimize the combination of theory and practice, auditing is a comprehensive discipline with both theoretical and practical characteristics, boring and obscure knowledge and theory is difficult to stimulate students’ interests in learning. And they are easy to trigger a negative aversion to learning. Teachers should use cutting-edge research and real audit cases, the introduction of common audit processes and work practices in classroom teaching to achieve the practical operation to enhance students understanding of audit knowledge content through practice. Third, the internationalization curriculum of the audit profession can be integrated, and the teaching content of the internationalization curriculum can be enriched through the Certified Internal Auditor (CIA) program or joint education, which especially the internationalization business courses closely related to multinational companies, such as the International Framework for the Professional Practice of Internal Auditing, the Fundamentals of Internal Auditing, the International Tax Agreement”, etc. In addition to the internationalization of knowledge and skills, we should also focus on cultivating the internationalization of students’ way of thinking, teaching the unique way of thinking, information resources, and innovative knowledge systems in foreign professional fields, and strive to build an education and training model that has absorbed advanced international education concepts, to cultivate excellent certified auditors. Fourth, strengthen the principle of socialist professional orientation and ethical concepts of the auditing profession. In CPA, ACCA, CISA, and other professional qualification examinations, the content of professional moral education accounted for a significant value, and social ethics education is the most significant difference

between domestic and foreign audit education, "moral" reflected in audit education is to continuously strengthen professional ethics. In the university education stage, we focus on shaping the healthy personality and emotional care of audit practitioners, and spare no effort to strengthen the inculcation of students' professional ethical awareness and enhance the sense of professional responsibility and mission.

### ***3.2 Innovative hybrid, open-ended teaching methods***

With the rise and application of information technology such as big data and mobile learning space, data-intensive "teaching" and "learning" supported by technology have changed traditional teaching methods. Innovative teaching with students as the main body pays more attention to the democratic and equal interaction and cooperation between teachers and students and focuses on acquiring knowledge in the open teaching of dialogue and communication. We believe that innovative teaching methods can be carried out in the following aspects: First, we will carry out a hybrid teaching mode, focusing on the "MOOC + micro-class" online platform, flipped classroom platform, practical teaching platform, etc. as the basis for the construction of "online teaching, classroom teaching and practical teaching." It creates an environment that supports and promotes students' knowledge construction, and focuses more on interactive communication between teachers and students from the perspective of students' engagement, satisfaction, and effect, to provide students with course contents that suit their needs and interests, and increase students' self-efficacy. Second, carry out dialogue and communication mode. In the traditional audit classroom model, the teacher is the intellectual authority and the central figure in the classroom, which lacks dialogue and communication between teachers and students. The phenomenon of "teachers only talk but not listen, students only listen but not talk" is very common. It is difficult to effectively stimulate students to take the initiative to learn thinking. Additionally, based on the democratic and equal view of teachers and students, the concept of free and open interaction, cooperation as well as collaboratively shared concepts of teaching will help to change this situation. Specifically, in classroom teaching, teachers should carefully choose a case or topic that can stimulate students' thinking, design teaching content around the topic, take the role of an equal listener and communicator in teaching, participate in students' discussions, introduce brainstorming, ask questions without evaluation, etc. To create a relaxed and democratic classroom atmosphere, encourage students to actively participate in classroom discussions, develop their thinking and speak freely. The teacher and students participate in the discussion together and are guided at the right time to develop students' ability to audit thinking and the concept of cooperation and solidarity.

### ***3.3 Continuously enrich the case base and expand case teaching***

The case teaching method is a practical and operational course based on the social needs and career-oriented nature of the auditing industry, where cases are introduced in the teaching sessions [9]. The teacher first constantly expands typical, novel, and representative cases with the help of the Internet, books, and journals, carefully selects cases in combination with relevant auditing courses, creates a teaching program for the case, considers the time for each part of the lecture, and makes a good overall plan for the classroom. Before the case is explained, students are given time for preparation and theoretical basis; during the discussion and analysis, students are guided and inspired to explore and analyse the case; during the case analysis, the knowledge points are explained in depth around the case, and students are led to master the knowledge related to internal control through step-by-step questioning. In the summary stage, the teaching effect of the case is discussed and reviewed by students before and during the class, and the shortcomings are explored and improved. We will discuss and review students' effectiveness of case teaching before and during the class and explore the shortcomings for improvement. The core and difficulty of the case teaching method are to select cases with students' high motivation and a good fit with the course content and to seize the knowledge points. The teachers are required to fully integrate knowledge points with cases, guide students to master theoretical knowledge in the process of analysing, investigating, discussing, and summarizing cases, and finally realize students' ability to analyse, solve and deal with problems, as well as cultivate practical operation, innovation, and creativity.

### ***3.4 Reform the teaching evaluation assessment method***

The implementation of teaching evaluation for human development, teaching evaluation assessment means that the university makes value judgments or self-value judgments on the development and changes in teaching, students' learning achievements, students' ability development, and the factors that constitute or affect their changes according to certain value standards, providing reliable information and scientific basis for reforming teaching and improving the quality of teaching, both legitimacy and validity of the dual judgment standards. On the one hand, the evaluation of teachers' teaching can restrain and improve teachers' teaching behaviour, regulate, and restrict teachers' teaching routines, urge teachers to improve teaching methods and improve teaching quality. Assessment and evaluation of students is a key part of the audit education process, the traditional assessment of examinations, especially closed-book examinations, is of positive significance in promoting students to pay attention to the accumulation

of knowledge in classroom teaching and motivating students to study hard. But to a certain extent, it can also mislead students' correct learning attitude and easily draw students' attention to the knowledge that they are sure to learn well, bringing undesirable consequences that "Take notes for exams, memorize notes before exams, and forget everything after exams". The improvement of teaching quality is ultimately based on the quality of students' learning, and the teaching effect is ultimately tested by the students' learning effect. In the actual teaching process, the evaluation system is designed from the students' perspective, which better reflects the concept of human-oriented teaching.

#### 4 MODELING AND VALIDATION

In this paper, we use Cronbach's alpha ( $\alpha$ ) [10] to test the reliability of the proposed curriculum reform in auditing, which was firstly created by American educator Lee Cronbach in 1951 to evaluate the reliability of internal consistency and is most commonly used in reliability measure, the coefficient takes values between 0 and 1:

$$\alpha = \frac{n}{n-1} \left( 1 - \frac{\sum_i V_i}{V_t} \right) \quad (1)$$

where  $i$  represent an item,  $V_t$  is the variance of test scores, and  $V_i$  is the variance of item scores after weighting. Critical comments on this formula have been primarily directed to the fact that when inequalities are used in deriving a lower bound, there is no way of knowing whether a particular coefficient is a close estimate of the desired measure of equivalence or a gross underestimate. The Cronbach's method is an overall measure of internal consistency, but a test that is not internally homogeneous

may nonetheless have a high correlation with a carefully-planned equivalent form. Items within each test may correlate zero, and yet the two tests may correlate perfectly if there is the item-to-item correspondence of content. As the larger the coefficient, the higher the reliability, randomly selected the sample value is 281, and the result of Cronbach's alpha ( $\alpha$ ) test in Figure 1 is 0.967, which is greater than 0.8, and the reliability passes the test.

In addition, it is of interest to determine how much difference it makes which assumption is employed, hence Kaiser Meyer-Olkin and Bartlett's formula was adopted to evaluate the validity of the questionnaire, [5] [8], Kaiser Meyer-Olkin formula is expressed as:

$$k = \frac{2mr+m^2+1}{2m(1+r_{ab})} \quad (2)$$

$$r_{ab} = \frac{n}{n-1} \left( 1 - \frac{\sum_i^2 p_i q_i}{\alpha^2} \right) \quad (3)$$

Here,  $i$  represents an item,  $p_i$  the proportion receiving a score of 1, and  $q_i$  the proportion receiving a score of zero on the item,  $m = \alpha_a/\alpha_b$ ,  $\alpha_a < \alpha_b$ .

And the Bartlett's formula is defined as:

$$k = \frac{(2mr_{ab}-m^2+1)(1+2mr_{ab}+m^2)}{2mr_{ab}(2mr_{ab}-m^2+3)} \quad (4)$$

where the definition of  $m$  and  $r_{ab}$  are as the equation (2) and (3).

The results showed that the KMO test value was 0.947>0.5, which was valid for reliability, and Bartlett's test also showed 0.56%, indicating that both reliability and validity passed the test:

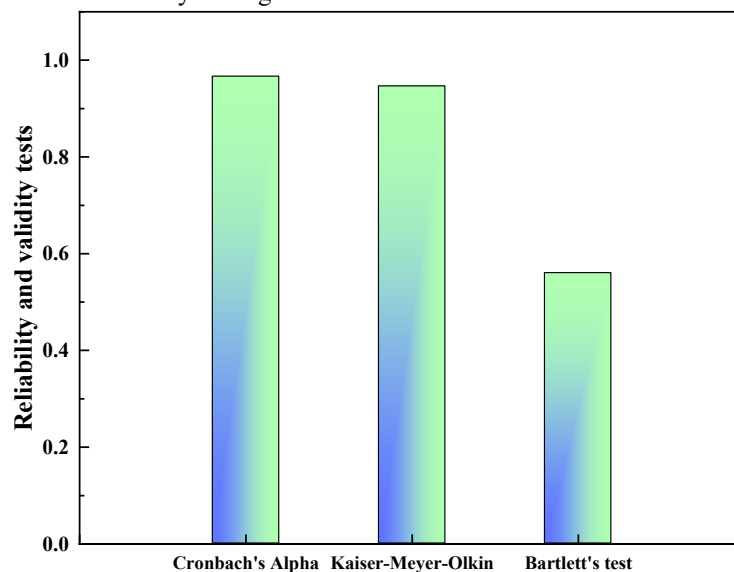


Figure 1: Result of reliability and validity tests.

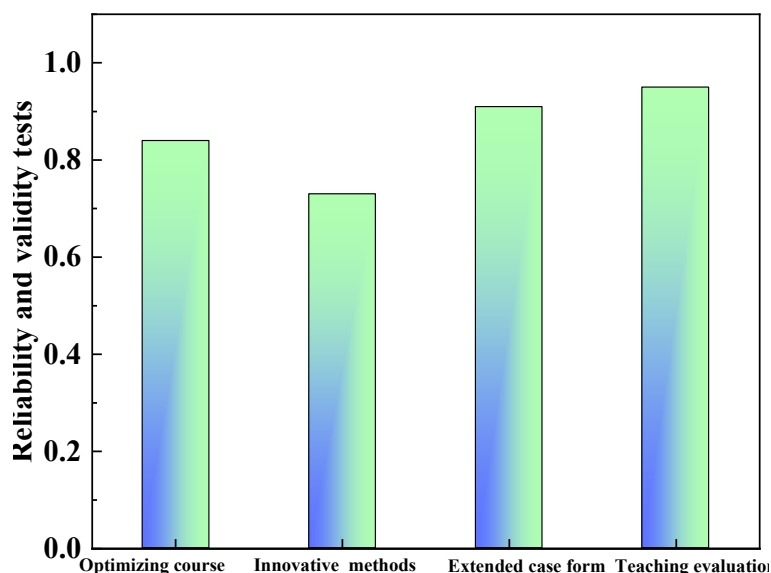


Figure 2: Evaluation of audit curriculum reform effect by questionnaire survey.

The analysis and discussion of the four reform directions are shown in Figure. 2. First, the data on optimizing course content shows that the survey satisfaction is 0.84, which indicates that the quadratic structure course content reform model is better in terms of teaching effectiveness. In the specific questionnaire survey, we also found that more than 90% of students have outstanding demands on optimizing the content of auditing theory and practice, especially expecting the teacher to the help of cutting-edge research and real audit cases. We introduce common audit processes and work practices in classroom teaching to enhance students understanding of audit knowledge content through practical operations. Secondly, the questionnaire survey data on innovative hybrid and open teaching methods show that students have a positive attitude toward carrying out hybrid teaching mode and dialogue and communication mode, but generally have a negative attitude toward brainstorming mode, resulting in the satisfaction of this weight only 0.73. In addition, students not only pay attention to the interactive communication between teachers and students, and hope that teachers can provide course content that suits their needs and interests, but also can increase student's focus on interactive communication between teachers and students and increase their self-efficacy. Moreover, the evaluation results of the case teaching method showed that students' expectations of the teaching reform of the course reached 0.91, indicating that the explanation of knowledge points around cases helped to increase students' participation, especially in the joint discussion and review of cases before and during the class was the most popular mode among students. Finally, the implementation of teaching evaluation for human development was highly recognized by the interviewed teachers and students, with a satisfaction level of 0.95, indicating that designing the evaluation system from the students' perspective based

on learning quality and effect is more suitable, and better reflects the concept of human-centered teaching.

## 5 CONCLUSIONS

The objective of this paper to dedicate to fostering versatile and practical audit talents. We discuss the course learning and social cognition essence of principle, as well as the vocational demand of auditing majors. Besides, by means of a detailed analysis of the present state and necessity of teaching reform in the auditing course, we came up with a proven and effective approach characterize by four dimensions that involved with optimizing course content, innovating mixed teaching, expanding case teaching, along with teaching evaluation and assessment system. The four-dimensional strategy can potentially be applied to many other curricula and open new avenues for designing cultivation of applied talents.

## ACKNOWLEDGEMENTS

This work was supported by the Teaching Reform Project of Xi'an University of Posts and Telecommunications (JGB201923).

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