The Policy Attribution and Promotion Path of Accounting "Dual-Qualified" Teachers' Ability Shortcomings Under the Digital Context

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Abstract: Under the background of digitalization, profound changes have taken place in the technological ecology and business model of the accounting industry, which puts forward higher requirements for the compound ability of " double-qualified " teachers in accounting. However, the current accounting ' double-qualified ' teachers generally have weak ability to apply digital technology, lack of practical ability of industry and finance integration, and lack of ability to transform digital teaching, which restricts the quality of accounting personnel training and the digital transformation process of vocational education. This paper analyzes the deep policy attribution from the dimensions of policy design, system connection, resource allocation and evaluation mechanism, and then puts forward some countermeasures, such as improving the qualification standards, improving the school-enterprise cooperation mechanism, optimizing the training supply structure, and reconstructing the evaluation system.

Keywords: digitalization; "dual-qualified" teachers in accounting; competency shortcomings; policy attribution; improvement paths

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1. Introduction

1.1 Raising of the question

Digital technology is reshaping the technological ecology and business model of the accounting industry at an unprecedented speed. New business forms such as financial robot process automation, big data audit and intelligent financial sharing have emerged one after another. The demand for accounting talents has shifted from a single accounting skill to a composite ability structure of " finance + data + business. [1] This change is directly transmitted to the field of higher education, and puts forward new requirements for the ability and literacy of accounting " double-qualified " teachers : they not only need solid professional theoretical foundation and industry practice experience, but also need to have the composite ability of digital technology application, industry and finance integration practice and digital teaching transformation.

However, there is a clear gap between reality and requirements. From the actual situation of vocational colleges, accounting ' double-qualified ' teachers generally have shortcomings in the application ability of digital technology, the practical ability of industry and finance integration, and the ability of digital teaching transformation, which is difficult to effectively support the digital transformation of accounting majors and the improvement of talent training quality. [2] Existing research mostly analyzes the causes from the perspective of individual teachers or college management, but less asks : what policy factors systematically

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shape these ability shortcomings ? It is this questioning that constitutes the origin of this study.

1.2 Research purpose and significance

The purpose of this paper is to systematically reveal the deep policy causes of the shortcomings of accounting ' double-qualified ' teachers ' ability, and put forward the corresponding promotion paths one by one. The research is not satisfied with listing the performance of capacity weakness, but shifts the focus of analysis to the structural level of policy design, institutional cohesion, resource allocation and evaluation mechanism, trying to answer the core question of " how policy shapes capacity weakness. "

The theoretical significance is that this paper extends the research of ' double-qualified ' teachers ' ability from individual attribution to policy attribution, and provides an analytical framework for understanding the institutional constraints of teachers ' ability development. The practical value is embodied in : through the corresponding design of ' one cause and one policy ', it provides operational decision-making reference for the education administrative department to revise the identification standards, optimize the teacher development system for colleges and universities, and build a digital platform for school-enterprise cooperation.

2. Literature review and research orientation

2.1 Definition of core concepts

'Double-qualified ' teacher is a policy concept in the field of vocational education in China, and its connotation has evolved from ' double certificate ' to ' double ability ' and then to ' double quality '. In 2022, the Ministry of Education defined the " basic standard (trial) " of " double-qualified " teachers in vocational education " as teachers who have both theoretical teaching and practical teaching ability. However, the definition focuses on the identification of individual qualifications, and there is not much ink on the dynamic adaptation relationship between teachers and industrial technology change. [3] This paper further clarifies that the application-oriented undergraduate accounting ' double-qualified ' teachers refer to not only have theoretical teaching, enterprise accounting practice, digital teaching transformation, but also need to have the ability of applied research in the field of accounting and horizontal project service enterprises. Different from higher vocational teachers who focus on skill training, their particularity lies in the high standardization and digitization of accounting work.

In this study, digital ability refers to the comprehensive literacy of teachers using digital technologies such as big data, cloud computing and financial robots to carry out business processing, data analysis and teaching transformation, covering three levels of technical operation, data thinking and teaching migration. The ability short board refers to the systematic gap between the existing ability structure of teachers and the job requirements under the digital background. It is not an accidental lack of individuals, but has group and structural characteristics. Clarifying this difference is the logical premise for the subsequent policy attribution analysis.

2.2 Research status at home and abroad

The research on the ability standard of ' double-qualified ' teachers in domestic academic circles started earlier. Li Xiaodong pointed out that the identification standard focuses on certificates and professional titles, ignoring the actual technical ability. [4] By focusing on the digital background, some scholars try to put forward that the structure of teachers ' ability should be changed from the two-dimensional framework of " professional ability + teaching ability " to the three-dimensional framework of " digital ability. " [5] Some scholars have discussed the impact of digital transformation on the talent training mode, indirectly involving the renewal of teachers ' ability, but they have not analyzed the shortcomings of teachers ' ability as an independent research object. [6]

Although there is no corresponding concept of " double-qualified teacher " in foreign countries, there are achievements that can be used for reference around the development of vocational education teachers ' ability. The German dual system requires teachers to regularly enter the enterprise rotation training, emphasizing the continuous updating of practical ability; [7] The Australian TAFE Institute lists industry linkages and technical literacy as core indicators. In recent years, international research has paid more and more attention to the

reshaping of teachers ' role by digital technology. Some scholars have proposed that teachers should shift from knowledge imparters to learning designers, which is of enlightening significance to understand the shortcomings of accounting teachers ' digital teaching transformation ability. On the whole, domestic and foreign studies have recognized that teachers ' ability needs to be dynamically adjusted with industrial technological change, but there is a lack of in-depth inquiry into the policy mechanism behind the adjustment lag.

2.3 Research review and positioning of this paper

By combing the existing literature, it can be seen that there are three shortcomings in the existing research. First, the description of the short board of ability mostly stays in the list of phenomena, and less questions the policy design defects and institutional cohesion obstacles behind it, and the reason analysis is superficial. Secondly, the countermeasures and suggestions are often generalized as ' strengthening training ', ' deepening school-enterprise cooperation ' and other principled expressions, lacking clear explanation of the implementation subject, operation steps and preconditions, which weakens the operability. Thirdly, accounting majors have special attributes such as rapid technological updating, strong industry norms, and high data security requirements. However, most of the existing research has incorporated them into the general discussion of ' double-qualified ' teachers, failing to fully respond to professional particularity.

The above shortcomings point to a deep problem : the formation of teachers ' ability shortcomings is not simply due to the lack of individual learning willingness, but the lack of effective connection between policy incentives, school-enterprise cooperation and professional standards. Specifically, the low weight of digital ability in title evaluation weakens the external motivation of teachers ' self-renewal ; school-enterprise cooperation mostly stays at the level of students ' practice, and teachers ' enterprise practice lacks institutionalized channels ; accounting industry standards and vocational education teacher qualification standards belong to different management systems, and the two have failed to form a mutual recognition mechanism. Therefore, this paper moves the analysis unit from the individual level to the policy level, focuses on the policy causes of the shortcomings of the digital ability of accounting ' double-qualified ' teachers, and tries to put forward a professionally targeted system improvement path.

3. Problem representation and group distribution

3.1 Definition and realistic representation of the problem

The " ability short board " in this paper refers to the continuous gap between the existing ability structure and the new requirements of the position in the digital teaching and practice scene of the accounting " double-qualified " teachers. This definition contains two boundaries : first, the short board does not refer to all the lack of capacity, but focuses on the incremental capacity gap caused by digitization ; secondly, the short board has group characteristics, not the occasional difficulties of individual teachers. Based on this, its realistic performance can be described from four dimensions. In terms of digital technology application ability, most teachers can operate basic financial software, but it is difficult to control the intelligent financial platform, financial robot process automation and business intelligence analysis tools. In the face of the financial data platform, they often stop at the surface query. In terms of practical ability of business-finance integration, teachers ' business experience mostly stays in traditional accounting positions, lack of personal understanding of budget control, supply chain finance and real-time cost analysis in the digital environment, and there is a clear time lag between practical cognition and industrial frontier. In terms of digital teaching transformation ability, even if teachers master certain technical tools, it is often difficult to transform it into a teachable and trainable teaching project, and there is a lack of conversion bridge between technical ability and teaching ability. In terms of cross-domain collaboration capabilities, the collaboration between accounting teachers and professional teachers such as information technology and data science mostly stays on the surface, and a stable curriculum co-construction and project co-research mechanism has not yet been formed.

3.2 The object and scope involved in the ability short board

The distribution of ability short board in the group of accounting ' double-qualified ' teachers is not

balanced, showing a difference pattern related to professional direction and age structure. As far as the professional direction is concerned, the shortcomings of teachers in the traditional directions such as accounting and financial management are mainly reflected in the application of technology and the transformation of teaching, while the direction of auditing and taxation is more urgent because of the rapid digitization of the industry, and the pressure of knowledge renewal faced by teachers is more urgent. As far as the age structure is concerned, there is a structural tension between the long-term accounting knowledge system formed by middle-aged and elderly teachers and the digital requirements, and the transformation is difficult ; although young teachers have a high acceptance of digital technology, they generally lack practical experience in enterprises, and the depth of business and financial integration is insufficient. The above distribution characteristics show that the short board of ability is not a homogenization problem, and its governance needs to take into account the structural differences within the group.

4. Multi-dimensional cause analysis

4.1 Policy design level : Qualification standards lag behind digital requirements

At the national level, only directional advocacy has been made for the application-oriented undergraduate " double-qualified and double-skilled " teachers, and no unified national qualification rules have been issued. Colleges and universities have independently formulated school-based accreditation standards. The school-based standards of most colleges and universities refer to the basic standards of " double-qualified " teachers in vocational education issued by the Ministry of Education in 2022. The identification conditions mainly focus on enterprise practice experience, vocational qualification certificate and teaching ability. Digital literacy only exists as implicit expectation, lacking operational observation points and grading. The standard text does not make clear requirements for the ability of data analysis tools, intelligent financial platform operation and business data modeling that accounting teachers should master, which makes it difficult to effectively identify the actual level of digital ability in the identification process.

Standard lag brings double consequences. On the one hand, colleges and universities tend to replace digital ability with traditional certificates and length of service in the initial examination of qualifications, forming a path dependence of " certificate is double teacher " ; on the other hand, individual teachers lack a clear reference system for self-improvement, and the direction of capacity building is vague. The digital absence of qualification standards is rooted in the lack of forward-looking policy design and the failure to respond to the rapid changes in the technological ecology of the accounting industry in a timely manner.

4.2 System convergence level: school-enterprise collaboration and teacher practice system is not perfect

Teachers ' enterprise practice system is the key channel for the cultivation of " double-qualified " ability, and its operation quality depends on the degree of institutional connection between schools and enterprises. At the national level, the enterprise practice of application-oriented undergraduate teachers is mainly guided by policies, and there is a lack of mandatory post practice system. Most application-oriented undergraduate colleges rely on the internal management system to encourage teachers to practice in enterprises, but lack rigid constraints. In addition, after accounting teachers enter enterprises, they are often assigned to traditional accounting positions, and it is difficult to contact digital scenes such as financial sharing centers, intelligent tax systems, and industry-finance integration platforms. There is a dislocation between practical experience and ability improvement goals.

The mutual employment system of school-enterprise personnel also faces implementation deviation. The financial digital talents of enterprises are restricted by factors such as salary system and professional title evaluation, and the willingness to enter colleges and universities is low. College teachers ' part-time jobs in enterprises are often in the form of heavy teaching tasks. Although the institutional text advocates two-way flow, it does not make detailed provisions on the proportion of digital practice posts and the criteria for determining the effectiveness of practice. The loose connection mechanism makes the school-enterprise cooperation stay at the level of framework agreement, which is difficult to be transformed into the substantive

support for the improvement of teachers ' digital ability.

4.3 Resource allocation level: digital training supply and platform support are insufficient

The digital training programs for accounting teachers show a structural shortage on the supply side. In the existing national and provincial training projects, the proportion of specialized digital teaching ability modules for accounting is low, and the training content focuses on general information technology, which is not highly compatible with the accounting professional scene. Even if the teachers participate in the training, the skills they have learned are difficult to directly migrate to the development of intelligent finance courses and practical training guidance. The disconnection between training supply and professional demand weakens the pertinence and effectiveness of ability improvement.

From the perspective of deep mechanism, the structural shortage of training supply stems from the institutional mismatch between resource coordination and demand identification. The design of training programs is mostly led by the administration, and there is a lack of accurate understanding of the current situation of accounting teachers ' digital ability, which leads to the formation of information gap between curriculum setting and job requirements. At the same time, the construction of digital teaching platform at the university level is generally lagging behind, and the lack of infrastructure such as intelligent financial training system and business financial data case base makes teachers lack a supporting environment for continuous practice and ability internalization after training. Even if some universities introduce relevant platforms, it is often difficult to achieve the expected performance due to insufficient operation and maintenance funds and slow technological updates. In addition, the co-construction and sharing mechanism of training resources has not been established between schools and enterprises, and the digital practice resources at the enterprise end have not been effectively transformed into teacher training content, which further aggravates the disconnection between the supply end and the demand end.

4.4 Evaluation mechanism level: assessment-oriented bias inhibits teachers ' self-renewal motivation

Assessment and evaluation is the ' baton ' of teachers ' professional behavior, and its index setting and result use directly determine the direction of teachers ' ability development. At present, although the evaluation system of applied undergraduate college teachers gradually emphasizes both teaching and practice, there are still obvious traces of traditional academic orientation and accounting specialty in the evaluation of " double-qualified " teachers in finance and accounting. In the evaluation of professional titles, papers, topics and traditional teaching workload often occupy a dominant position, while digital curriculum development, intelligent financial platform application, industry and finance integration project guidance, digital teaching resources construction and other achievements are difficult to be converted into effective evaluation indicators, or even not included in the evaluation scope. In the performance appraisal and evaluation, the weight of teachers participating in the digital practice of enterprises, obtaining the digital certification of the industry, and guiding students to participate in the intelligent fiscal and taxation competition is low, which leads to the lack of income expectation for the improvement of digital ability.

There are also deviations in the composition of evaluation subjects. Most of the existing evaluations are mainly based on university administrators and peer experts. Industry and enterprise experts, financial digital platform technicians, and industry association representatives are insufficiently involved. There is a lack of effective docking between evaluation standards and the forefront of the accounting industry. The short evaluation cycle also aggravates the incentive distortion : the annual assessment focuses on the immediate visible results such as class hours and papers, while the improvement of digital ability requires a long period of learning, practice and teaching transformation. Teachers ' rational choice is often to maintain the traditional teaching path, rather than invest in high uncertainty digital ability construction.

5. Systematic optimization countermeasures

5.1 Improve the qualification standards and embed digital capability indicators

The qualification standard is the logical starting point of the construction of " double-qualified " teachers,

and the scientificity of its index design directly determines the development direction of teachers ' ability. Section 4.1 shows that the current standards have structural deficiencies in the coverage of digital capabilities, and the revision of standards should be the primary measure to crack the shortcomings of capabilities. It is advisable for provincial education authorities to issue guidance, and universities to form an expert group with financial, industrial and information departments and industry organizations to ensure that the standard not only responds to the law of education but also meets the needs of the industry.

The operational level can be divided into three steps : first, the independent dimension of " digital ability " is added to the existing identification framework, which is juxtaposed with teachers ' moral quality, professional teaching ability and enterprise practical ability ; the second is to refine the digital ability into observable indicators such as intelligent financial tool operation, financial data collection and analysis, and digital teaching resource development, and distinguish the primary, middle and high levels. The third is to set a two-to-three-year policy transition period, allowing colleges and universities to help stock teachers reach the standard in flexible ways such as school-based training and enterprise research. The effectiveness of standard revision is subject to the digital level of regional industries, and universities in the central and western regions may face resource constraints when they land. Therefore, the standard should set the bottom line requirements rather than the unified high line.

5.2 Improve the school-enterprise coordination mechanism and strengthen the digital practice system

School-enterprise collaboration is a key channel for ' double-qualified ' teachers to acquire digital practical ability, but the institutional convergence obstacles revealed in Section 4.2 show that the existing collaboration mechanism has not yet made adaptive adjustments to the digital scene. The optimization path should start from the teacher enterprise practice system, expand the practice content from the traditional accounting position to the digital scene such as the financial sharing center and the intelligent taxation service platform, and clarify the minimum time requirement of the teacher enterprise digital practice at the school system level.

The main body of implementation involves universities, enterprises and the government : universities are responsible for formulating practical plans and process management, enterprises provide digital posts and instructors, and the government stimulates enterprises ' participation through policy tools such as tax incentives and the identification of enterprises with integration of production and education. In operation, we can rely on the regional industry-education integration platform to establish teachers ' enterprise practice workstations and implement project management. Teachers take solving the real digital problems of enterprises as practical tasks and avoid becoming a mere formality. The premise of this path is that the digital foundation of regional industry is relatively mature. If the enterprise is still in the primary stage of informatization, the digital content of practical content is difficult to guarantee. At this time, the cooperation of leading enterprises in the industry should be preferred.

5.3 Optimize the structure of training supply and build a digital development platform.

The scale and quality of training supply directly affect the increment of teachers ' digital ability. The scarcity of training projects and the disconnection of content pointed out in section 4.3 are rooted in the failure of the supply structure to realize the transformation from unified rationing to on-demand customization. The integration of training resources should be a breakthrough : the education administrative department should coordinate with well-known financial software enterprises and industry associations to develop a modular and advanced digital training curriculum system.

In the supply mechanism, a closed-loop operation mode of " demand diagnosis-course customization-effect feedback " should be established. Specifically, the existing level of teachers can be accurately portrayed through digital ability assessment tools, and training programs can be designed in a hierarchical and classified manner to avoid one-size-fits-all supply. At the same time, a competitive purchase mechanism is introduced to allow high-quality enterprise training institutions to participate in the supply, forcing the improvement of training quality with market logic. In addition, it should be noted that the

construction of training platform should avoid repeated investment, and the digital training function module can be expanded based on the existing educational wisdom platform to realize resource sharing. For colleges and universities in the central and western regions, they should also alleviate the dilemma of insufficient access to high-quality training resources through compensatory mechanisms such as East-West collaboration and online training communities.

5.4 Reconstruct the evaluation system and strengthen the incentive of digital ability

The deviation of assessment orientation inhibits the motivation of teachers ' self-renewal, so the reconstruction of evaluation system should be the key path to solve the short board of ability. The main body of implementation should be led by universities, guided by the administrative department of education, and jointly participated by industry organizations, leading enterprises and financial software platforms to form an assessment and evaluation mechanism of " university-led, industry participation, classification evaluation and dynamic adjustment. "

The operational level can be advanced in four steps. The first is to optimize the index structure, incorporate digital capabilities into title evaluation, annual assessment, employment assessment and evaluation, and set up observable indicators such as the application of intelligent financial tools, digital curriculum development, guidance of industry-finance integration projects, and construction of digital teaching resources. The second is to implement classified evaluation, set different weights for teaching-oriented, teaching and research-oriented, and social service-oriented teachers, and avoid using unified scientific research standards to measure digital teaching results. The third is to introduce multiple evaluation subjects, invite enterprise financial digitization experts, industry associations and software platform technical experts to participate in the evaluation, and explore the mutual recognition of industry digital certification and university assessment results. Fourth, strengthen the use of results, link the evaluation results with performance distribution, title promotion, job appointment, and further education funding, and give preference to those with outstanding digital capabilities.

6. Conclusion

6.1 Research conclusion

This paper focuses on the short board of accounting ' double-qualified ' teachers ' ability under the digital background, and analyzes it along the logic of ' realistic representation-policy attribution-promotion path '. The short board of ability is manifested in the weak application ability of digital technology, the lack of practical ability of business and finance integration, the lack of digital teaching transformation ability and the limited ability of cross-disciplinary collaboration. Its formation is the result of the superposition of four factors : policy design, system connection, resource allocation and evaluation mechanism. The lag of qualification standards makes the digital ability lack access traction, the school-enterprise collaboration and the teacher 's practice system are not perfect to block the channel of practical ability renewal, the lack of training supply and platform support weakens the resource base, and the deviation of assessment orientation inhibits the motivation of teachers ' self-renewal. The four types of causes are mutually strengthened. Based on this, four corresponding paths are proposed to improve the qualification standards, improve the school-enterprise coordination mechanism, optimize the training supply structure, and reconstruct the assessment and evaluation system. The key to solving the short board of ability lies in the formation of policy synergy, but its implementation depends on the coordinated satisfaction of preconditions such as regional industrial foundation, university governance ability and teachers ' subjective will.

6.2 Research deficiencies and prospects

The limitation of this paper is that the ' double-qualified ' teachers of finance and accounting are regarded as a relatively homogeneous group, and the differences in the types of colleges and universities, professional directions and age structure are not paid enough attention to. The applicability of the conclusion still needs to be treated with caution. Future research can be deepened in two directions : one is to use a mixed method of questionnaire survey and interview to quantify and compare the weight of the four causes, and to test the

implementation effect of the promotion path in different regions and universities ; secondly, from the perspective of type comparison, this paper examines the differentiated performance of higher vocational undergraduate, applied undergraduate and higher vocational college in the short board of digital ability, and identifies the moderating effect of boundary conditions such as university governance ability and industrial environment on the effectiveness of the path, so as to enhance the external validity and practical guiding value of the research conclusions.

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