

The Practice and Reflection on the Integration of Competition and Education in the Finance and Accounting Program of Vocational Undergraduate Education

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Abstract: The deep penetration of digital technology is driving changes in the talent cultivation path of the vocational undergraduate finance and accounting program, and integrating vocational skills competitions with teaching is now an urgent problem to meet the demands of the industry. The three stages of the study are link logic, curriculum reconstruction and evaluation of results. The competition system and curriculum structure have many levels of nesting, and the transformation of competition task modules into teaching projects follows the logic of learning. Digitalisation will promote the joint development of competition and teaching content; modular organisation of the curriculum based on competition knowledge points will form teaching units with business logic as their main thread, penetration of competition scoring standards into classroom assessment will enable the realisation of indicators, and the hierarchical and progressive competition-training system will integrate competition training into the regular teaching organisation. Learning achievement is the result of cognitive changes induced by competition, and the spirit of competition constantly influences students' professional ability through near transfer and far transfer. Due to the different structures of competition logic and teaching logic, some unexpected problems have occurred that need to be solved by filtering content, normalising articulation and balancing evaluation.

Keywords: Vocational undergraduate education, Finance and accounting program, integration of competition and education, curriculum reconstruction, learning transfer

Introduction

Vocational higher education hopes to cultivate high-end technical and skilled talents, so its finance and accounting system need to be updated in line with the new job requirements brought about by digitalisation. As one of the leading forces in the industry today, vocational skills competitions can provide some ideas for designing the curriculum and tests of professional courses. Currently, there are problems in the teaching of the finance and accounting program, such as a mismatch between the curriculum content and the needs of employment, a lack of development in students' all-around application abilities, and, even after internal adjustments to the curriculum system, no significant improvement has been achieved. The typical work content, business process norms and scoring rubrics in the competition system can all be taken as teaching reform references. The combination of competition and education is not to put competition activities next to teaching; rather, it should be organically integrated at the level of internal mechanisms.

Integration covers revising the content of the curriculum, reorganising teaching methods, reforming the evaluation system, and so on; it is quite complex, so we need to conduct a systematic analysis of the integration process. At the same time, we need to clarify the two effects of competition orientation on the cultivation of professional competence and consider any unexpected problems that may arise in the integration process. Based on the above background, the purpose of this paper is to reveal the coupling logic and operating mechanism of the integration of competition and education, explore how to achieve modular reorganization of the curriculum and teaching reconstruction, and conduct a theoretical analysis of the formation mechanism and adjustment direction of educational effectiveness.

1. Coupling Logic and Operating Mechanism of the Integration of Competition and Education in the Finance and Accounting Program of Vocational Undergraduate Education

1.1 The Nested Relationship of the Vocational Skills Competition System and the Curriculum Structure of the Finance and Accounting Program in Vocational Undergraduate Education

The structure of the curriculum for the finance and accounting program in vocational undergraduate education is competency-oriented, and it generally includes modules such as basic accounting, cost management, tax application, financial analysis and internal control. The system of vocational skills competitions is based on typical work tasks in the profession, and there is a natural correspondence between the level of content and the curriculum modules. Basic accounting competition items belong to the cluster of primary accounting courses, and management accounting and financial decision-making competitions are in the area of advanced professional courses. The correspondence is not a simple linear map; rather, it has several levels of nesting^[1].

Due to the combined circumstances of the competition system, many contents in the curriculum need to be covered, and students are required to integrate accounting processing, tax handling, data analysis, etc.; thus, new demands have arisen for the vertical coherence and horizontal integration of the curriculum structure. The competition items require the all-round development of students, so the curriculum design will no longer follow the logic of a single subject but will be based on a modular system of business scenarios. At the same time, the distribution of weight in the competition scoring standards shows that the industry places more emphasis on certain skills, and this value orientation gradually affects the selection of curriculum content and the allocation of class hours. The nested relationship between the competition system and the curriculum structure is the foundation for the integration of competition and education.

1.2 The Internal Mechanism of Converting Competition Task Modules into Teaching Projects

To make the competition tasks teaching projects, it is necessary to change the form of knowledge and redesign the learning path. Task modules in vocational skills competitions are generally comprehensive, have time limits and high difficulty levels, so they need to be broken down, organised and taught sequentially in daily classes. At the bottom of the conversion process is the change from task logic to learning logic. Competition tasks have the workflow of professional positions, require accuracy and efficiency in the results, but teaching projects should consider students' cognitive patterns and the progressive development of their abilities. First, the competition task module breaks down the knowledge elements to identify the professional content it covers, such as accounting rules, application of tax laws and financial statement analysis, etc., and then designs it in layers according to the principles of learning progress.

Tasks that are relatively difficult can be broken down into several smaller projects at different times in the teaching plan, and individual skill points can be organised into a large-scale training project at the end of a semester or a curriculum module. The evaluation criteria for the competition problems have been modified to rubrics for assessing the quality of students' projects, and the goal of completing these problems has been added to the learning objectives. The smooth running of this process of change depends on whether teachers can integrate their knowledge of the competition content and teaching logic, and also on how well the curriculum system can implement projects^[2].

1.3 Dynamic Evolution Characteristics of the Integration of Competition and Education in the Digital Era

With the digital transformation of finance, the form of content for vocational skills competitions has changed, and teaching methods in the finance and accounting program have been modified, thus achieving the goal of combining competition and education with dynamic development. In the early days of competition-education integration, the focus was on training accounting skills, so the competition platform simulated manual and computerised accounting, and the teaching content was in line with what was on the platform. With the development of intelligent finance, big data auditing and robotic process automation technology have advanced in recent years, and many competition projects have started to add digital task modules for data analysis, system design and risk identification. Therefore, the teaching materials need to be updated regularly, and new content such as big data analysis of finance and intelligent finance tools has been added to the original curriculum system.

The progress of the integration of competition and education has been in an upward trend, the future-oriented nature of the competition content has guided the iterative direction of teaching materials, and feedback from the teaching process has been used to enhance the rationality of competition design. Given that the same digital tools have been employed for both the competition platform and teaching, it is likely that the technical operation specifications and data processing standards at these two places will be the same. At the same time, the assessment requirements for digital literacy in competitions should also incorporate knowledge of information technology and finance and accounting more effectively in the professional curriculum. With the passage of time, the division between competition and teaching has gradually vanished; thus, cooperation has started to appear at all levels, including the speed of new material release, the application scope of technology, and the goals of talent cultivation, and is now mutually influencing each other.

2. Modular Curriculum Reorganization and Teaching Reconstruction for the Integration of Competition and Education in the Finance and Accounting Program of Vocational Undergraduate Education

2.1 Modular Reorganisation of Professional Courses Based on Competition Knowledge Points

The knowledge points and skill points in the content of the vocational skills competition provide a basis for the structural adjustment of the finance and accounting program courses. Competition projects are generally based on the actual business conditions of enterprises, covering many areas of business such as accounting processing, tax declaration, financial analysis and internal control, and the distribution of their knowledge points has cross-course and cross-chapter features.

Based on the knowledge points of competition, the modular reorganization of professional courses first needs to deconstruct the competition content and identify the professional elements in it, such as application of accounting standards, application of tax laws, preparation of financial statements, data analysis methods, etc. Based on the above, the original curriculum content organised according to disciplinary logic is broken down and rearranged into teaching blocks, and business modules are set as units. For example, the content of the core business process of manufacturing enterprises in the courses of Basic Accounting, Intermediate Financial Accounting and Cost Accounting is integrated to form the "Business Economic Accounting" module; the content of the calculation and declaration of major taxes from the courses of Tax Law, Tax Planning and Tax Accounting has been organised into the "Tax Processing and Declaration" module^[3].

Modular organisation is to divide the obstacles in front of students, so that the teaching content can be organised around business logic as the main thread and meet the demands of competition projects for all-round application ability. All the modules have different input requirements and output norms, and the learning results of the previous module will be used as the foundation for the next module to achieve a cumulative competency effect. Although the modules are relatively independent, some cross-links have been added throughout the whole-project to offer curriculum-level support for the all-round situation-response ability required in competition training.

2.2 The Penetration of Competition Scoring Standards in the Dimensions of Classroom Teaching Evaluation

The scores of the vocational skills competition will be based on job-related skills, and different weights have been assigned to various factors, such as operational norms, data accuracy, process comprehensiveness and analysis depth. The scoring indicators are observable and quantifiable, so there will be a basis for improving the classroom teaching evaluation system. The spread of competition scoring norms in classroom teaching evaluation can be seen from the actual forms of assessment indicators and all kinds of assessments.

The main items in the evaluation indicators for traditional course assessments are the memorisation of knowledge points and the operation of single skills. After the introduction of competition scoring standards, attention has also been paid to the completeness of business process procedures, and students are now required to know how voucher filling, account book recording and financial statement preparation are linked in their accounting work. The index of data accuracy can now be traced back to the origin of the data, calculation logic and reasons for abnormal fluctuations. The index of time-efficiency is added to the assessment factors to require that the work be done promptly and on schedule.

At the level of evaluation methods, according to the modular scoring model of competitions, the comprehensive project is divided into several scoring nodes, and each node has a different weight; thus, both formative assessment and summative assessment can be carried out. The spread of scoring standards can also be seen in the design of rubrics; according to the structure of the competition scoring table, the abstract "analytical ability" has been turned into specific, measurable indicators such as "trend identification in statements", "annotation of abnormal items", and "ratio calculation and analysis" to increase the objectivity and differentiation of evaluation.

2.3 Construction of a Hierarchical and Progressive Competition-Training System and Teaching Organisation

With the continuous development of the integration of competition and education, a hierarchical and progressive competition-training system should be built in line with the curriculum system so that competition training can change from a special activity for a few students to a regular teaching system for all students. According to the stages of competency development, a hierarchy and steps for competition training have been set.

First, teach the basic skills of young children one by one. Based on the components of in-class practical training, some basic task modules from competitions have been added to the daily teaching, such as filling in source documents, preparing accounting vouchers and preparing bank reconciliation statements. The training content will be in line with the progress of the course, and the difficulty will meet the demands of the course^[4].

The upper group consists of junior high school students and high school students. Organise all-encompassing training weeks and project-based courses in all subjects to simulate entire business scenarios, have students participate in competitions and complete the whole process of a business event to prepare financial statements in a short time. The competition scoring norms will be released periodically during the training period for feedback.

The competition will be for students with good professional skills. Form a special training team and, in accordance with the competition rules, organise intensive mock training. The training content includes the latest competition past papers and simulation questions, and the goal is to solve all kinds of difficult problems and non-routine business processes.

Linkage Mechanisms are set up at all three levels; the high level selects students who have reached the operational standardisation in the basic level, and the competition level chooses students with excellent overall application abilities from the high level. At the level of teaching organisations, competition-training content will be added to the talent cultivation plan and corresponding credits will be awarded. The training at the basic level and the advanced level are included in the teaching plan, and the training at the competition level will be offered as elective courses or in the second classroom, under the joint guidance of professional teachers and competition instructors.

3. Measurement and Reflective Adjustment of Educational Effectiveness in the Integration of Competition and Education in the Finance and Accounting Program of Vocational Undergraduate Education

3.1 The Formation Mechanism of Learning Performance in the Context of Competition-Education Integration

The purpose of applying the competition-education integration model is to enhance students' interest in learning and promote all types of cognitive activities by adding competitive elements to teaching. The construction of learning performance is not the result of adding competition training and course learning; rather, it is the outcome of their joint operation. The goals and results of the competition tasks are clear, so students can set specific goals and will study with a particular purpose rather than learning randomly. Time pressure and competition in a test can cause students to be anxious and therefore be unable to think clearly.

Most competition tasks in the area of finance and accounting are operational in nature, involving the analysis of source documents, application of accounting standards, etc., and completion of statement items. Students need to repeat the procedures several times and then construct conditional sentences based on them. Competition and education have been combined to promote task-oriented learning as a type of instruction that combines knowledge acquisition with skill application and

shortens the time it takes for students to apply what they have learned in school.

At the same time, the self-monitoring habits that have been learned in competition training, such as checking for the continuity of vouchers, verifying the articulation relationships in statements and confirming the reasonableness of calculation results, are also applied in daily study to improve the accuracy and comprehensiveness of learning. The formation mechanism of learning performance can also be observed in the interaction effect at the group level; collaboration and competition among groups in competition training create conditions for peer teaching and observational learning to promote the improvement of professional skills through interpersonal transmission^[5].

3.2 The Transfer Effect of Competition Orientation on Professional Competence Cultivation

The two ways in which competition orientation affects the cultivation of professional competence are near transfer and far transfer. Near transfer is the extension of the content and means of competition training to similar learning tasks. Students who participate in the financial decision-making competition have better abilities for task decomposition and stronger awareness of information integration in comprehensive case analysis; they can identify the key business nodes in the cases and organise the steps of problem-solving according to the analytical framework they have learned in the competition.

Training for the accounting competition has made the students more aware of the need for standardisation in source documents and the completeness of elements in accounting vouchers; this awareness will continue to be applied in course assignments and training projects. Far transfer refers to the spread of cognitive habits and professional qualities developed in competition training to many other areas of professional life. The business-finance integration thinking that has emerged from the competition can help students be more conscious of using accounting language when reading business descriptions and convert business activities into accounting entries and statement items^[6].

Strictly regulate the scoring rules of the competition, demand accuracy in the construction of data, help students develop a sense of responsibility for numbers, enable them to trace the source of data and verify calculation results in financial analysis and budgeting, etc. The degree of the transfer effect is reduced by the depth of competition training and the proximity of teaching articulation. The more often and for how long one is trained under competitive conditions, the better a person will become and the longer the effect of training will last; the greater the overlap between the content of the competition and the course, the higher the chance of transfer.

3.3 Attribution and Correction of Unforeseen Problems in the Process of Competition-Education Integration

As it has been running, competition and education have given rise to many unforeseen problems due to structural differences in the logic of competition and that of teaching. Too much weight has been given to the speed and accuracy of competition training; thus, students have developed a mechanical-operation mindset and are not very flexible in handling irregular problems. A typical case is that they strictly follow the accounting standards and fail to find any irregular transactions. Some students have developed a slack attitude towards simple accounting tasks after intensive competition training; they pay less attention to their daily studies and are making more basic mistakes.

There is a conflict between the small scope of the competition content and the all-encompassing demands of the curriculum. Too much emphasis on popular areas in the competition may lead to a reduction in investment in the fundamentals of knowledge and result in some deficiencies in the knowledge system. The explicit nature of the competition's scoring rules causes students to organise their study behaviour according to the scoring points and pay less attention to tacit knowledge that is not covered in the score, such as professional ethical sensitivity and communication and coordination skills.

Attribution analysis shows that the reasons for the above problems can be traced back to a conflict between the goals of competition and teaching, as well as to the competition for time among competition training and regular classes. The Three Directions of Correction Strategies are as follows: First, a screening mechanism should be established to select competition content and the stage of teaching reform; otherwise, there will be too much emphasis on technical competitions that do not align with the cultivation goals of vocational undergraduate education. Second, articulation norms need to be established between competition training and the basic courses at the teaching institution, and the academic requirements of regular courses for competition participants should be clarified. Third, to

address the imbalance between the focus of competition scoring and the cultivation of all-round professional ability, assessment nodes for the ability to handle non-routine tasks and professional judgment should be added to the evaluation system.

Conclusion

In fact, the construction of the competition-education integration talent cultivation model is the process of incorporating the basic logic of vocational skills competitions into the teaching system of the finance and accounting major at vocational colleges. The foundation of integration is the nested relationship of the competition system and the curriculum structure, and to transform competition tasks into teaching projects, a shift from job logic to learning logic is necessary.

With the development of the digital era, the joint evolution of competition content and teaching content has led to convergence in both the speed of updating and technological level. Modular reorganisation of the curriculum based on competition knowledge points rearranges teaching content according to the main line of business operations and breaks down the original disciplinary barriers. Spread of competition scoring standards in classroom teaching evaluation can improve the objectivity and practicality of evaluation indicators. A hierarchical and progressive competition-training system has been established to make competition training a regular teaching organisation for all students, and it has been expanded from participation by a few to full coverage.

The appearance of learning performance can be traced back to changes in cognition caused by the introduction of competition, and this competitive nature has continuously affected the development of professional ability through both near transfer and far transfer mechanisms. The unexpected problems in the integration process show that there are structural differences between the logic of competition and the logic of teaching, which need to be addressed properly, and correction strategies should be developed in the three areas of content filtering, articulation norms and evaluation balance. More studies will be carried out to investigate the moderating effects of all the above factors on the process of competition-education integration, determine which types of competition are suitable for different curriculum modules, and explore how digital tools mediate this integration.

Fund Projects

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