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Thoughts on the Reform of the Course Evaluation System for Big Data and Accounting under the Background of Higher Vocational Education in the New Era

Yanjing Gu*

Fuzhou Melbourne Polytechnic, Fuzhou, China
**Corresponding author: 40520108@qq.com*

Abstract: *Currently, China has developed into the world's largest vocational education system. It has achieved a historic leap and breakthrough in vocational education. In this way, the continuous optimization and reform of the course evaluation system is an important mechanism for improving teaching effectiveness and becomes a key indicator for enhancing the quality of talent cultivation. This article analyzes the characteristics of the current course evaluation system for vocational education in different countries. It summarizes and extracts methods that are suitable for China's vocational education evaluation system, and explores the reform methods of the course evaluation system under the major of big data and accounting.*

Keywords: *dual system; TAFE; course evaluation system*

1. Introduction

With the high-quality development of the social economy and the continuous promotion of talent cultivation in higher vocational education, the reform of the course evaluation system has gradually become a key and difficult point in higher vocational education. It is well known that youth employment has a closely relationship with the current economic system. The demand for talent cultivation by industry enterprises is becoming increasingly precise, it makes difficult for vocational education to meet the development needs of enterprise positions. Therefore, with the transformation and upgrading of vocational education, vocational colleges should accelerate the reform of the course evaluation system to match the needs of industrial upgrading and social development.

Meanwhile, Cahuc et al. (2019) mention that the properly designed of vocational education and course evaluation system can have a positive impact on the good labour market performance[2]. In effect, vocational education should mediate the influence of labour market performance on the social background. Scarpetta et al. (2010) also point out that young people with a proper training experience during the vocational education are less likely to suffer the adverse effects from the unemployment phases[4]. Thus, it is necessary to have a deeper research on the construction of courses and course evaluation system under the background of China’s vocational education. This article intends to explore and research the international course evaluation systems, such as the evaluation system of TAFE education in Australia and the course evaluation system under the German dual system under the big data and accounting major and analyse how to effectively improves the efficiency and effectiveness of the reform of the big data and accounting course evaluation system.

2. Dual vocational education model of TAFE in Australia and Germany

TAFE vocational education, as an important component of Australian education, has been gradually established in Australia since the 1970s. It is an educational philosophy based on lifelong learning, aimed at cultivating vocational and technical education that is skill based and employment oriented. By combining vocational education with industry development, establish a modern vocational education system guided by vocational needs and centered on student training. In addition, the Australian federal government and industry associations have taken the lead in jointly developing an evaluation system for the entire training program with TAFE vocational colleges. The national government conducts

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unified planning and management of the TAFE vocational system, while industry associations accurately develop corresponding training content based on industry development needs. TAFE vocational colleges develop courses and corresponding evaluation systems based on national unified documents, attach great importance to school enterprise cooperation, and ensure that the direction of talent cultivation matches the human resources needs and positions of enterprises. In its development process, the TAFE vocational education system has become a model standard for vocational education in the world with its unique educational characteristics and training mode for professional skilled talents.

The dual vocational education system in Germany differs from the full-time vocational education system in that it combines traditional apprenticeship with modern vocational education and adopts an educational model of cooperation between enterprises and schools. Germany's dual vocational education system has introduced an eight level grading system, with certificate levels divided into vocational preparatory certificate (level 1 and 2), dual vocational education and training certificate (level 3 and 4), IT expert or technician (level 5), bachelor's degree (level 6), master's degree (level 7), and doctoral degree (level 8) certificates. Participating in vocational education and training for two years can obtain a Level 3 certificate, while those who have participated for three years or more can obtain a Level 4 certificate. The dual vocational education system in Germany has achieved the intersection of vocational education and higher education. In addition, under the dual vocational education model in Germany, there is a continuous deepening cooperation between college and enterprise. Under this model, the practical training courses in enterprises can be regarded as the core course during the phase of practice skill learning. It highlights the apprenticeship status of vocational education students, and organizing teaching and training according to the actual job needs of enterprises. In the way, it apparently break through the model of traditional vocational education.

3. Characteristics of the TAFE Vocational Education Curriculum Evaluation System in Australia

3.1 Government-led and diversified investment organization and management

Due to the fact that TAFE in Australia is composed of multiple entities such as the federal government, the National Vocational Education Research Centre, and the Industry Training Advisory Committee. Among them, the federal government has established clear regulations on the academic system and quality levels of TAFE, which determines the standards for diplomas and vocational qualification certificates. The organization of national vocational education conducts a deep research and analysis on the current development status of vocational education. Based on their analysis, it provides consultation and decision-making support for the federal government. At the same time, the Industry Training Advisory Committee conducts market research and analyzes industry market demand. In addition, by participating in the development of industry human resource training plans to determine the assessment standards for vocational training .

The Australian TAFE framework documents mainly include the National Quality Training Framework (AQTF), the National Qualification Framework System (AQF), and training packages. The Australian Quality Training Framework (AQTF) mainly guarantees the quality of TAFE colleges and their vocational education and training, and regulates the quality and principles of education at the government level. Among them, it is explicitly required that TAFE College actively establish cooperation with enterprises, combining regular teacher training with practical activities of enterprises to ensure that the talent cultivation direction of TAFE vocational education is closely linked to industry development dynamics. The Australian Qualifications Framework (AQF) has established a nationwide unified qualification certification system, which clearly divides the qualification levels of vocational education and sets up a total of 12 levels of qualification certification for basic education, vocational education, and higher education[1].

3.2 Integrating the professional development and curriculum design of TAFE in Australia with industry demands

Based on the practical teaching of the TAFE vocational education, the core of the courses is focus on the training of students' practical abilities. From the perspective of the demand for talent positions in the market economy, teaching standards and curriculum are set according to the skill and knowledge needs of students' employment positions. TAFE College convenes experts from the National Industry Training Advisory Committee to evaluate industry enterprises, jointly develops vocational education

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training packages with college and enterprises. It continuously integrates specific job knowledge and skill requirements of industry enterprises in this process. In addition, TAFE vocational education in Australia emphasizes the integration of practical skills into the entire teaching process. Through the construction of production practice bases and other simulation projects, students can effectively put their professional knowledge into practical skills, truly achieving a integration of teaching and learning.

3.3 Teaching Methods and Evaluation System of TAFE Vocational Education in Australia

Compared with traditional curriculum teaching, TAFE courses in Australia present diverse teaching methods, adopting advanced teaching methods such as multimedia teaching, online teaching, and group activities. At the same time, electronic textbooks and other learning materials are provided, and functions such as online learning duration data statistics and online testing are set up to stimulate students' interest and enthusiasm for learning through diverse learning modes. In addition, TAFE vocational education adopts various assessment methods, with relatively diverse requirements for the assessment of theoretical knowledge and a particular emphasis on the assessment of practical abilities. In training package courses, there are minimum assessment requirements, and teachers should combine at least two or more methods to assess students' abilities[3]. At the same time, teachers should fully consider the characteristics and ability requirements of the curriculum when choosing evaluation methods, and pay more attention to the process evaluation of students' assessment.

4. Characteristics of the Dual System Vocational Education Curriculum Evaluation System in Germany

4.1 Teaching mode of cooperation between enterprises and universities

The dual education system in Germany is a vocational education model guided by operational skills. Under this system, enterprises and colleges are closely related, by cultivating students to learn theoretical and practical knowledge in both enterprise and college settings. It achieves an organic combination of theoretical knowledge and practical abilities. In this education model, students can not only gain professional theoretical knowledge, but also practical work experience. At the same time, students can have in-depth communication and exchange with enterprise mentors to understand cutting-edge operational skills in the industry. The dual education system in Germany has developed from apprenticeship, with a particular emphasis on students' practical skills. In the dual system mode, students participate in enterprise training for 70% of the total class hours, fully cultivating their professional and operational skills in the process of enterprise practice. Therefore, through the training of "dual system" vocational education, students can clearly and explicitly define their learning goals and career development direction.

4.2 A teaching evaluation system guided by professional competence

The assessment mode of Germany's dual vocational education adopts a form of separation of teaching and examination. That is to say, it is organized by third-party industry associations for national exams, whether the theoretical knowledge learned during school or practical knowledge learned during enterprise.The federal government formulates a system of vocational education regulations.Under the strict regulation, various industry associations obey the rules within the scope of national laws and regulations. At the same time, industry associations are responsible for supervising the training process, and assessing the training results. The dual education model in Germany integrates multiple entities such as government, industry, enterprises, and schools, effectively achieving the integration of talent cultivation that matches market demand. In addition, students also have a pathway for further education through dual system training, which provides them with better career development opportunities.

Specifically, the German dual system examination model is divided into two parts. The first part is the theoretical assessment, which takes place after the end of the second academic year. The second part is the practical skills assessment, which is conducted before graduation from vocational education. Due to the dual vocational education system in Germany, which follows a vocational competence oriented evaluation system. Its evaluation results are highly recognized by industry enterprises. Meanwhile, through the dual system of learning, students' vocational skills are highly linked with market demand, which can effectively improve their ability and competitiveness to adapt to their future workplace.

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5. The development trend of big data and accounting major

With the rapid development of the digital economy and the arrival of the big data era, the mode of social and economic production has undergone shattering changes. With the booming development of technologies such as big data and the Internet of Things, the traditional accounting industry has also undergone significant changes. Faced with the rapid upgrading and transformation of the industry, higher requirements have been put forward for the professional skills of accounting personnel. In November 2021, the Ministry of Finance issued the "14th Five Year Plan Outline for Accounting Reform and Development", which proposed that the accounting industry should fully utilize digital transformation technology and continuously promote the modernization of accounting work. At the same time, the cultivation of accounting talents not only requires traditional accounting core knowledge, but also accounting data operation skills in the information age. As a vocational college, it is necessary to keep up with the pace of social development and conduct in-depth research on the accounting talent training mode and industry skill development needs in the information age.

Compared with the curriculum and evaluation system of traditional accounting majors, big data and accounting majors should develop towards the technology of digitalization and AI intelligence. On the basis of acquiring basic accounting knowledge, students need to effectively combine big data analysis skills to help enterprises mine and analyze financial data through financial digitization, digital operations, and other methods, in order to improve the level of accounting informatization in the business operation among enterprises. Therefore, in the process of constructing courses evaluation system for big data and accounting majors, a diversified evaluation system should be adopted. Thus, a traditional results oriented evaluation system should be transferred to a process oriented evaluation system.

6. Reform of course evaluation system for big data and accounting major under the background of higher vocational education

6.1 Transitioning from a single evaluation to a diversified evaluation

Vocational education, as an important part of China's education industry, is an educational activity aimed at cultivating applied and professional talents that meet the demands of social and economic development. Its educational talent cultivation goals are different from higher education. Vocational education focuses on cultivating practical and skilled talents and emphasizing students' practical abilities. Under the construction of a vocational education evaluation system, we should consider all related stakeholders such as students, teachers, schools, enterprises and industry associations. That is to say, in order to reform the current courses evaluation system, enterprise and industry association should be included as the evaluation subject. Through diversified evaluation subjects, we should deepen education reform by highlighting the evaluation subject status of social organizations, and optimize the evaluation system reform of vocational education.

In terms of big data and accounting majors, vocational education evaluation system should be combined with the needs of social and economic development and integrate practical accounting skills such as enterprise big data analysis, financial intelligent accounting. During a certain period, in order to improve the comprehensive evaluation of students' practical abilities, comprehensive course evaluation and process evaluation should be conducted. At the same time, in enterprise internship courses, we should draw on the dual evaluation system of TAFE in Australia and Germany, integrate the curriculum evaluation standards of industry enterprises, make enterprises and industry mentors the main evaluators of the curriculum, assess students' vocational abilities based on specific practical skills evaluation standards, help students improve their personal vocational skills, tap into their career potential and shortcomings, and optimize their personal benefits.

6.2 Shift from common evaluation to personalized evaluation

Compared with the traditional collective evaluation system of vocational education, it will develop into a personalized and differentiated curriculum evaluation system. The standards of vocational education evaluation system should focus on the assessment of students' practical abilities. However, China's vocational education evaluation system still focuses on the assessment of students' theoretical knowledge, which lacks the evaluation of students' vocational skills. Based on such situation, drawing on the German dual system vocational education courses evaluation system is meaningful. In detail, it

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is essential to integrate the evaluation mode of enterprise exams and industry unified qualification exams in the process of courses evaluation system. Also, it should be evaluated by enterprises and industry organizations as the main evaluators of students' courses. In addition, in designing the curriculum evaluation system, the characteristics of the Australian TAFE curriculum evaluation system also should be integrated. With a assessment of practical abilities and adopting diverse evaluation system, attentions should be paid to the process evaluation of students, such as comprehensive evaluation based on their personal skill completion status, as well as their cooperation ability, communication ability, skill quality, etc. during the task completion process.

For big data and accounting majors, when evaluating professional courses, the original theoretical assessment and evaluation system should be transformed. In order to cultivate the development plan of vocational education and respect the laws of talent growth, diversified evaluation indicators should be used. Given the job characteristics of big data and accounting majors, the design of the curriculum evaluation system should incorporate the evaluation of students' values, moral values, skill qualities, and other personality indicators. Meanwhile, vocational colleges should deepen the talent cultivation model of college-enterprise cooperation and industry education integration.In this way, students can quickly adapt to the needs of vocational positions and enhance their own employment competitiveness.

7. Conclusion

In summary, under the development trend of big data technology and artificial intelligence technology, the industry transformation and upgrading faced by big data and accounting majors will continue to drive the transformation of skill requirements for financial accounting positions. When constructing a vocational education evaluation system in China, we should draw on the characteristics of the dual vocational education evaluation systems of TAFE in Australia and Germany, and optimize the vocational education curriculum evaluation system in China. In order to better the course evaluation system in China, diversified evaluation methods should be considered. Meanwhile, it is necessary to evaluate students' courses from the aspects of vocational skills, communication skills, action skills, etc., In this way, the efficiency and effectiveness of vocational education evaluation results in China will be significantly improved.

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