

An Analysis on the Integrated Development Path of Open Education and Higher Vocational Education under the Background of Digital Transformation

Luying Gan, Han Song

College of Education, Cadre Online Learning College, Yunnan Open University, Kunming, China

Abstract: With the rapid development and widespread application of digital technology, the digital transformation of education has become an inevitable trend. The coordinated development of higher vocational education and open education is the mission of national vocational education reform under the new development pattern, which can cultivate high skilled talents that meet the urgent needs of industrial upgrading and economic structural adjustment, effectively promote vocational education reform, and improve talent quality. This article takes advantage of the opportunity of digital transformation, introduces advanced teaching methods and tools, innovates teaching modes and methods, proposes ways to transform thinking to promote value recognition, strengthen the construction of the teaching team, promote the sharing and co construction of learning resources, improve curriculum design, and create an interconnected credit recognition system, hoping to promote the deep integration and coordinated development of the two types of education, and contribute to the construction of a learning society and the development of a lifelong education system.

Keywords: Digital Transformation; Open Education; Vocational Education; Integrated Development

1. Introduction

With the rapid development and widespread application of digital technology, the digital transformation of education has become an inevitable trend. Digital transformation helps universities to timely understand market demand, adjust educational strategies, and cultivate talents that meet market demands. Open education and vocational education are important components of higher education in China. Open education uses information

technology as a means to carry out distance education, which is a key carrier for building comprehensive lifelong learning services and promoting educational equity; Vocational education has the mission of cultivating high-quality technical and skilled talents, serving the needs of the country's economic development mode transformation and industrial structure adjustment.

The integration of higher vocational education and open education can cultivate high skilled talents who can meet the urgent needs of industrial upgrading and economic structural adjustment, effectively promoting vocational education reform. It will also improve the quality of talents, promote industrial structural upgrading, and assist in the vigorous development of regional economy while alleviating current employment pressure. This study conducts in-depth research on the current status and existing problems of the integration of open education and higher vocational education. Taking advantage of the opportunity of digital transformation, advanced teaching methods and tools are introduced, and innovative teaching models and methods are used to explore the development path of the integration of the two types of education, in order to promote the practice and exploration of the integration of open education and higher vocational education.

2. The Necessity of integrating Open Education and Vocational Education for Development

The integration of open education and vocational education has become a new trend in current education development. It can not only improve the efficiency and quality of education, but also meet the demand for talents in society. At the same time, it can promote educational equity and improve the internationalization level of education.

2.1 Effectively Improving the Quality of Vocational Education

Open education refers to providing students with flexible learning methods through various forms such as the internet and television. Students can learn according to their own time and pace, which improves learning efficiency; Advanced educational concepts, innovative forms of education, and shared educational resources are the advantages of open education, while the lack of training teachers and specialized training venues and equipment are the shortcomings of open education.

Vocational education relies on high-quality vocational skills courses, stable teaching staff, and excellent experimental and training facilities to carry out teaching. High quality training resources can help fill the gaps in practical teaching in open education. However, outdated and rigid teaching methods, as well as insufficient application of digital technology, are the shortcomings of vocational education.

The integrated development of open education and higher vocational education can not only leverage the digital support role of open education in higher vocational education, enrich the forms of higher vocational education, improve the quality of higher vocational education, but also strengthen the support role of higher vocational education in terms of teachers, venues, and equipment for open education, and enhance the effectiveness of open education. The integration of the two can effectively improve the quality of vocational education.

2.2 Expand Vocational Education Channels

Open education focuses on cultivating students' comprehensive qualities and independent learning and practical abilities, while vocational education emphasizes the cultivation of professional skills. The integration of the two can provide students with richer and more diverse learning resources,[1] as well as more practical opportunities.

The integrated development of open education and higher vocational education can broaden the channels of vocational education, cultivate high-level professional and technical talents, and also help to build a learning society and lifelong teaching system and concept, enhance the literacy of social personnel, and better serve regional economic development.

2.3 Promote Educational Equity

The integration of open education and vocational education can effectively promote educational equity and advance the development of national education. Open education breaks the limitations of geography and time, providing high-quality educational resources for rural and remote areas, offering students more equitable learning opportunities, and alleviating the problem of uneven distribution of educational resources. Meanwhile, open education can provide students with more flexible learning methods, allowing them to make choices based on their actual situation.

3. Analysis of the Current Situation of the Integration and Development of Open Education and Vocational Education

With the rapid development of economic globalization and technology, the integration between open education and vocational education has become a hot topic in the current education field. At the policy level, the Chinese government has introduced a series of relevant policies to encourage and support the integration between open education and vocational education. For example, policy documents such as the "Guiding Opinions on Promoting the Integrated Development of Higher Education and Vocational Education" and the "Opinions on Promoting the Integrated Development of Open Education and Vocational Education" have clearly stated the goals and measures to strengthen the integrated development of open education and vocational education.

At the practical level, some educational institutions in China have begun to explore and practice the integrated development model of open education and vocational education. Taking China's open university system as an example, the open university has worked hard for many years to find a successful path of "advanced means of communication+famous teachers and teachers", and has been committed to exploring the deep integration of modern information technology and educational technology. In the new era, the open university has once again been entrusted with the mission of "the national team of Internet plus education", restructuring the open education ecology, [2]promoting educational reform, promoting high-quality resource sharing, and building a model of "Internet plus University". The integration of the demand for reform in vocational education teaching mode and the advantages of open

education, distance learning, and systematic education is a natural choice, which can balance the educational characteristics of both parties and achieve complementary advantages.

At the same time, some other universities have also begun to carry out joint training programs between open education and vocational education, providing students with more diversified learning paths and richer learning resources. Some vocational colleges have also begun to introduce and develop open education courses, providing students with more flexible learning methods and broader learning opportunities.

4. The Problems in the Integration and Development of Open Education and Vocational Education under the Background of Digital Transformation

The Chinese government has clearly set goals and measures to strengthen the integrated development of open education and higher vocational education, and many vocational colleges are gradually exploring and practicing the model of integrated development of open education and higher vocational education. However, there are also some problems and challenges in the integration and development of open education and higher vocational education in China, which need further research and solutions.

4.1 Lack of In-Depth Understanding of the Integration and Development of Openness And Higher Vocational Education

The concept of integrating open education and vocational education has not yet been deeply rooted in people's hearts, and many educators and students have insufficient understanding of it. Open education emphasizes students' self-directed learning, personalized development, and social adaptability, while vocational education places more emphasis on skill training and practical operational abilities. The challenges of integrating open education and vocational education are multifaceted, requiring overcoming differences in educational philosophy, curriculum design, faculty strength, and evaluation methods. Therefore, in the process of integrated development, it is necessary to overcome the differences in education between the two, find commonalities, and achieve complementarity.

4.2 The Comprehensive Ability and Quality of Teachers Need to Be Improved

Most of the teachers in open education are graduates of universities who directly enter the teaching position. Their characteristics are high education and solid theoretical foundation, but they lack practical operation ability and are not competent for practical teaching in open education. Most of the professional teachers in vocational colleges come from enterprises and have rich practical abilities and operational experience. The teaching staff is the key to promoting the integrated development of open education and higher vocational education, thus posing higher requirements and challenges for teachers.

Secondly, the current teaching staff in vocational colleges generally suffer from a lack of skills in digital teaching. Most teachers still need to improve their abilities in using digital teaching tools, [3]designing and managing online courses.

4.3 Insufficient Allocation of Digital Resources

Some vocational colleges have insufficient investment in digital teaching resources, with equipment update rates lower than the industry average, and software system maintenance and updates lagging behind industry development, which poses significant obstacles to the effective implementation of digital teaching. The limitations of technology and resources not only affect the implementation of digital education, but may also lead to issues of educational equity.

4.4 Differences in Course Offerings

There are also certain differences in the curriculum design between open education and vocational education. Open education places greater emphasis on students' self-directed learning abilities and personalized development, making the curriculum more flexible and customizable to meet the needs of different students. Vocational education, on the other hand, places more emphasis on skill training and curriculum design that emphasizes the cultivation of practical operational abilities. Therefore,[4] in the process of integrated development, it is necessary to overcome differences in curriculum design, find commonalities, and achieve complementarity in curriculum design.

5. The Integrated Development Path of Open

Education and Higher Vocational Education Under the Background of Digital Transformation

In the practical process of integrating open education and vocational education, there are some technical and management issues that constrain their development. Taking advantage of the opportunity of digital transformation, we can improve the quality and efficiency of higher vocational education by introducing advanced teaching methods and tools, innovating teaching models and methods. By utilizing digital teaching methods such as online courses and virtual laboratories, we can optimize the allocation and sharing of teaching resources, and enhance students' interest and participation in learning.

5.1 Transforming Thinking Patterns to Promote Value Recognition

Organizing vocational education in the new era to promote the integration of open education and vocational education is an inevitable way for "professionals" to achieve lifelong learning, to meet the needs of national communication and connection in various types of education, and to improve the quality of education. To promote the value and cultural identity of teachers, students, and managers, achieve their common ideal pursuit, and provide ideological sources and development momentum for their high-quality development.

5.1.1. Strengthen policy support

Equal status should be given in integrated resource allocation, with two types of education jointly managed, co governed, co built, and shared for common development. The government should strengthen policy support and promote the integrated development of open education and vocational education in preschool education majors. By formulating relevant policies and regulations, encouraging and supporting school enterprise cooperation, we can promote the in-depth development of the integration of open education and vocational education.

5.1.2. Building an open and inclusive culture of cooperation

Openness is the soul of open education, and cooperation and inclusiveness are the core competitiveness of open education, its inherent attributes, and the key to achieving various educational communication and connection. Vocational education crosses the boundaries

between education and industry, schools and enterprises, and work and learning, and openness and inclusiveness run through all aspects of talent cultivation. Therefore, open education and vocational education can jointly create a culture of cooperation that is open and inclusive.

5.1.3. Promote the complementary integration of open education and higher vocational education

In terms of talent cultivation mode, teaching methods, resource sharing, and teacher-student co management, we have advantages that place greater emphasis on the teaching process, teaching practice, and teaching quality, and strive for innovation and practicality.

5.2 Strengthening the Construction of the Teaching Staff

With the continuous integration of open education and higher vocational education in China, teachers need to constantly update their knowledge and improve their quality to adapt to new educational models. Therefore, we need to strengthen teacher training and improve their comprehensive quality and abilities.

5.2.1. Improve the Comprehensive Ability and Quality of Teachers

For many years, open education has mainly focused on theoretical teaching through remote training, with rich experience in online education and high-quality course resources. Vocational colleges are also vigorously developing information technology education and teaching methods such as smart campuses, flipped classrooms, micro courses, and MOOCs, which can draw on the experience accumulated over the years in open education. Higher vocational education teachers and open education teachers should engage in more interactive and teaching exchange activities; Simultaneously organize open education teachers to enter vocational colleges for practical learning and training.

5.2.2. Strengthen digital training

Regularly organize digital training for teachers to improve their technical application skills in teaching design and implementation. The training content includes but is not limited to the use of multimedia teaching tools, online course production and management, etc.

Vocational colleges can also hold digital teaching competitions to stimulate teachers' enthusiasm for applying digital technology. Through competitions, discover and promote

excellent digital teaching practice cases, and enhance teachers' digital teaching level.

5.3 Promote the Sharing and Co Construction of Learning Resources

Promoting the sharing of learning resources has become a necessary path for the integration of vocational education and open education to jointly build talent cultivation.[5] By integrating and designing modular teaching content for two types of education, a professional course resource library is constructed with the goal of enhancing learners' core vocational abilities. A shared teaching resource library is jointly built, and training equipment and venues are shared to achieve resource integration, exchange advantages, promote the coordinated development of the two types of education, and optimize resource allocation.

5.3.1. Accelerate the digitalization of learning resources

The positioning and characteristics of open education determine its high level of digitalization of learning resources, and it has inherent advantages in sharing learning resources. For example, it can provide vocational college students with various forms of teaching resources through open teaching platforms, such as instructional videos, multimedia animations, question banks, and course reference materials.

Whether it is open education or vocational education, the construction of digital curriculum resources is very important. Digital curriculum resources are the core, and through the co construction of digital curriculum resources, the integration and sharing of open education and vocational education can be achieved.

5.3.2. Improve the socialization and openness level of vocational education learning resources

Vocational colleges have abundant physical learning resources such as training bases, laboratories, and libraries. From the perspective of integrating and co building talent cultivation, we should open up internal resources to a wide range of open education learners and leverage the role of internal resources in the construction of open education and lifelong education systems.

5.3.3. Building a resource sharing network platform

Exploring the construction of a fully functional, easy-to-use, and visual resource sharing platform, such as apps on various mobile

communication devices such as smartphones and tablets, can better promote the deep integration of two types of educational resources and effectively co build and share them.

The modular integration of open education and vocational education curriculum content, the construction and sharing of teaching resource libraries, the informatization and digitization of teaching materials such as practical training task outlines, production cases, textbooks, and exercise guidance, through multimedia teaching, virtual simulation, online interaction and other forms, enables students to have a certain intuitive understanding of the practical training environment, operational requirements and methods, and become familiar with the operational process of practical training. Digitize, optimize, and store course teaching resources in a networked manner to form a teaching resource library that deeply integrates two types of education, enabling learners to learn anytime, anywhere, and independently without being limited by time and space or geography.

5.4 Improve Curriculum Design and Create an Interconnected Credit Recognition System

Vocational education and open education have different curriculum systems, and there is a lack of integration between their courses, as well as problems such as inconsistent curriculum standards and assessments.[6] Therefore, curriculum interoperability should be the focus of integrated and collaborative talent cultivation.

5.4.1. Establish a sound collaborative curriculum design mechanism

In the context of the integrated development of open education and vocational education, curriculum design should meet the needs of professional development and focus on practicality, combining theoretical knowledge with practical skills to enhance students' practical operational abilities. On the basis of curriculum design, teaching content should be adjusted according to market demand.

We need to establish a collaborative curriculum design mechanism to enhance the quality of curriculum design and support talent cultivation through the synergy between the two. Both higher vocational education and open education regard curriculum design as a fundamental activity of running schools, and combine it with the goal of talent cultivation to design and develop a number of courses with their own characteristics.

5.4.2. Building an interconnected credit recognition system

Open education and vocational education achieve mutual integration and resource sharing through the credit recognition system and standards of credit banks, and build a "bridge" for talent cultivation of different educational types between academic and non academic education, open education and vocational education, and open universities and vocational colleges.[7]

Vocational education should break away from the core thinking framework of academic education, vigorously promote the "1+X" certificate system, skills competition score conversion system, etc., and exchange learners' learning achievements for academic credits to promote the integration of open education and vocational education.[8]

6. Conclusion

The integration of open education and vocational education is an important trend in the current education field. The coordinated development of the two is the mission of national vocational education reform under the new development pattern. The deep integration of the two types of education is a necessary guarantee for cultivating high-quality talents. This article takes advantage of the opportunity of digital transformation, introduces advanced teaching methods and tools, innovates teaching modes and methods, proposes ways to transform thinking to promote value recognition, strengthen the construction of the teaching team, promote the sharing and co construction of learning resources, improve curriculum design, and create an interconnected credit recognition system, hoping to promote the deep integration and coordinated development of the two types of education, and contribute to the construction of a learning society and the development of a lifelong education system.

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