

Digital Transformation of Cantonese Education: Exploration and Application of Interaction of Video Classes and Online Classes

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Abstract: With the rapid development of digital technology, the digital transformation of education has become the trend of the times, and Cantonese education is also facing the demand for innovation. This study focuses on the background and practice of the digital transformation of Cantonese education, and explores how to improve the teaching effect and learning experience through the combination of standardized courses and online interactive courses. Starting from the essence and practical framework of digital transformation, this paper analyzes the specific role of technology empowerment in Cantonese learning, and explores its practical application value with cases.

Keywords: Cantonese Education; Digital Transformation; Video Classes; Online Classes.

1. Introduction

With the rapid development of information technology, the digital transformation of education has become an important way to improve the quality of education. As one of the main dialects in China, Cantonese education is facing many challenges in the traditional mode. Digital transformation provides new development space for Cantonese education, especially in the application of video lessons and online interaction. This paper aims to explore the application of video courses and online interaction in Cantonese education, analyze its role in promoting the teaching effect, and then provide useful ideas and practical reference for the digital transformation of Cantonese education.

2. Essence of Digital Transformation of Education

2.1. Development of Education Digitalization

Technological progress is the most fundamental driving force for social development. Every technological revolution has effectively promoted the development of social productive forces and has brought tremendous and profound impact on human production, work and life. From the perspective of the transformation of control structure triggered by technology, social development has gone through four technological generations: mechanization, automation, computerization and informatization [1]. In recent years, with the development of digital technology, informatization has made a leap to the digital dimension, which makes it possible to produce new forms of interaction, production and perception. In the process of informatization development, digitalization has gradually become an important part and key requirement of the historical process of generalized informatization.

In 2020, the American Higher Education Informatization Association (EDUCAUSE) put forward the "3D" model of digital revolution, which divides the process of digital revolution into three stages: digital conversion, digital upgrading and digital transformation. Among them, digital conversion is the process of using digital technology to

convert information from analog format to digital format, including Digitize Information and Organize Information. Digital upgrade is the process of optimizing organizational operation processes and information management supported by digital technology, including Automate Processes and Streamline Processes. Digital transformation focuses on the application of digital technology to redefine organizational activities, processes, models and capabilities in order to reshape the value proposition of the organization and build a new ecosystem for development. For example, the combination of video lessons and online interactive lessons not only realizes the digital conversion of teaching resources, but also provides an effective tool for optimizing the teaching process. At the same time, it enhances the real-time interaction between teachers and students, and promotes the overall transformation of educational forms.

2.2. Value of Education Digital Transformation

The exponential development of digital technology represented by artificial intelligence is changing the form of social production, consumption, organization and service, such as the emergence and development of digital banking, online and offline integrated sales, automatic driving, intelligent manufacturing, intelligent medical treatment, etc. These new digital industries, new models and new patterns show that society is changing rapidly and human society is entering the era of digital intelligence. In the face of rapid social changes, education should maintain its relevance and train talents to adapt to future social life and social development in order to respond to the needs of social development. Therefore, in the era of digital intelligence, the digital transformation of education is a new requirement to adapt to economic and social development, solve the contradiction between social development and talent supply, and improve social productivity [2]. The digital transformation of education needs to form new digital consciousness, digital thinking, digital structure, digital culture and digital operation mode on the basis of the transformation of products, services, processes and modes. This process is conducive to building a digital culture rooted in education and teaching, enhancing people's digital literacy

and digital ability, and thus improving people's adaptability to future digital survival and practice. In this context, as a part of the digitalization of education, video courses and online interactive courses not only break the time and space constraints of traditional classroom teaching, but also promote the improvement of student's digital ability and collaborative ability through the design of real-time interaction and personalized learning paths, so as to make education more suitable for the needs of the digital intelligence era.

3. Dilemma of Digital Transformation of Education

3.1. Algorithm and the Subject-Object Reversal and Alienation of Educational Subjects

In the view of Marxist philosophy, the alienation of human beings by technology is mainly the alienation of production relations. It implies the logic of subject-object dichotomy, that is, "the subject becomes an object different from itself, and the object in turn opposes the subject". In the process of educational digitalization, the producer of data is separated from the data created by itself, and the data in turn affects and controls the behavior of the educational subject under the influence of the algorithm, which is opposed to the educational subject, and ultimately forms an unequal relationship between the algorithm and the educational subject, leading to the alienation of the educational subject [3]. The alienation of educational subject goes through three stages: the objectification of the subject, the subjective embodiment of the new object, and the manipulation and control of the "objectified subject". It is the beginning of alienation that the educational subject is objectified because of the data. Digitalization originally means that people recognize and utilize objective objects through digital information, representing the cognitive relationship between subjects and objects, but when teachers and students enter the digital space, their psychological characteristics, cognition, behavior and activity trajectories are transformed into data, and gradually separated from people themselves. These data will be collected and analyzed by platforms, systems and applications, which will reverse the relationship between subject and object, and teachers and students will become the data objects to be analyzed, leading to substantial objectification.

3.2. The Acceleration of Data Flow Brings Fragmentation

Digital space has changed the way of human existence and educational practice, but the educational practice free from the constraints of geographical space is more deeply regulated by data and algorithms. Teaching and learning are located in the digital space in a fragmented way, deconstructing the continuity and integrity of education. The acceleration of data flow promotes the acceleration of knowledge production and the acceleration of educational rhythm, forming a kind of "mobile education", while the impact of education is becoming more and more accidental. Data updating and algorithm pushing are going on all the time, knowledge is becoming more and more mobile, and the speed of updating is accelerating. In this environment, the knowledge that students are exposed to is mainly immature soft knowledge

that has not been processed by experts and scholars, and the knowledge they are exposed to every day and the digital world around them are constantly changing. Students are "submerged in the ocean of data, but endure the hunger for information", and seldom produce deep and meaningful cognitive experience and emotional participation. They are not so much the educates of digital space as the "tourists" and "vagrants" of all kinds of information under the flow of data, and it is difficult to integrate learning content and learning experience into a complete educational process.

4. Practical Methods of Digital Transformation of Cantonese Education

4.1. Practical Principles of Digital Transformation of Education

As a process of technology-driven educational innovation and change, the practical connotation of educational digital transformation reflects multiple development implications, which can be regarded as a value-oriented behavior choice. In practice, the deep-seated generation principles mainly include the principle of "problem-driven + idea-led", the principle of "system evolution + innovation breakthrough" and the principle of "value evaluation + iterative optimization". It needs to be clear that the digital transformation of education is the result of multiple logics, and its practice needs not only problem-driven and idea-guided, but also systematic evolution and innovation breakthroughs, accompanied by value evaluation and iterative optimization. However, these logics often do not occur synchronously in practice, but reflect the role of one or more logics differently according to the situation. Educational organizations may focus more on specific elements of a principle, but other principles may also be implicit in practical activities. In the practice of digital transformation of education, it is necessary to construct specific paths and methods based on these generation principles [4].

Firstly, the practice of educational digital transformation is rooted in the current situation and needs of educational organizations. In the field of Cantonese education, the problem-driven mechanism is particularly important. By identifying the key problems in the inheritance and promotion of Cantonese education, such as the uneven distribution of learning resources and the single teaching mode, we can explore the solution path of digital mode and promote the digital practice of Cantonese education. Video courses can play an important role in this process, with wide content coverage and strong resource sharing, which can provide standardized and flexible learning resources for Cantonese learners in different regions. Online interactive mechanism promotes the immersion and participation of Cantonese learning through real-time question-and-answer, learning discussion and virtual classroom, so that the teaching content and learning needs are closely linked.

Second, the digital transformation of education follows the objective law of development. As a complex system, the development of education system not only depends on "system evolution" to promote holistic and coherent development, but also needs to adapt to changes in the external environment through "innovation" and emphasize breakthrough innovation. The digital transformation of Cantonese education needs to rely on the development of

online learning platform, intelligent tools and multimodal resources, such as the design of video courses and interactive courseware, to show the uniqueness of Cantonese language and culture through animation, sound and visual elements, so as to enhance the interest and effect of learning [5].

Thirdly, "problem-driven + idea-led" and "system evolution + innovation breakthrough" should be extended to the concrete practice of the digital transformation of education. With the continuous iteration of technology, new problems and challenges in the field of Cantonese education are also increasing. For example, how to achieve precise teaching in a variety of online interactions? How to integrate interactive elements in video lessons to enhance the learning experience? These problems require constant adjustment and optimization of design ideas in practice. By creating immersive video courses, introducing intelligent answering assistants and designing interactive learning paths, the digital achievements of Cantonese education can be further enhanced, and the inheritance and innovation of Cantonese in the context of globalization can be promoted.

4.2. Framework for Digital Transformation of Education

The deep integration of digital technology and education is promoting a major change in the traditional education model, providing more abundant possibilities for future education. For example, technologies such as multimedia, cloud computing and the Internet have expanded the space-time boundaries of teaching and learning, while the addition of cutting-edge technologies such as 5G communication technology, big data and artificial intelligence has provided a new path for the deep integration of information technology and education. However, relying solely on the digital upgrade of these technologies is not enough to achieve the real digital transformation of education, the core of which still lies in the people-oriented concept of education, that is, to achieve high-quality, fair and efficient education services. Therefore, educational organizations need to have a clear understanding of what changes the digital transformation will bring, and what tools and strategies will be used to support the reconstruction of the educational ecosystem, so as to better achieve model innovation.

The framework of education digital transformation needs multi-level design under the guidance of goals and strategies, and redefines the activities and processes within the organization based on digital technology. This transformation is not only a process of dynamic adjustment, but also an adaptive optimization according to the actual situation of educational organizations, in order to cope with the differences in environmental conditions, organizational culture and practical ability of different regions and schools. For example, in the field of Cantonese education, the exploration of digital transformation includes the combination of video lessons and online interaction, which fully reflects the flexibility and pertinence of the framework design. In the development of video lessons, the curriculum design focuses on standardization and refinement. Each lesson focuses on nine tones and six tones of Cantonese, initials and finals, and basic grammar, with the form of recording and broadcasting for students to learn repeatedly. At the same time, the homework punch card and the teacher's online sound correction link are realized through the digital platform, so that students can get timely feedback and support in the process of autonomous learning.

In the digital practice of Cantonese education, the specific path of the framework is particularly important. For example, the combination of standardized curriculum and interactive teaching mode has become an effective way to achieve the deep integration of technology and teaching. Recording and broadcasting courses are designed with short-term efficiency as the core, each class is controlled within 20 minutes, combined with homework punch cards and teacher's pronunciation correction links, to help students accurately grasp the tone, pronunciation and grammar of Cantonese. In addition, online interactive courses provide more practical opportunities for learners. The weekly, 120-minute small-class interactive course strengthens listening and speaking ability through real-time language communication, and carries out in-depth discussions around designated topics, thus closely combining knowledge learning with language use. This mode not only guarantees the flexibility of learning, but also promotes the interaction between teachers and students and the improvement of learning effect, which provides an effective practical reference for the digital transformation of Cantonese education.

4.3. Leadership Development of Digital Transformation of Education

Facing the changing educational ecological environment, how to grasp the strategic direction, path and method of organizational transformation has put forward new requirements for the leadership construction of educational organizations. Leadership is the ability of leaders to attract and influence the led and stakeholders in a specific situation and to continuously achieve the goals of the group or organization. In the practice of digital transformation of education, the leadership of digital transformation of educational organizations plays a leading role, which to some extent determines the vision and development direction of the organization, and then determines the success or failure of digital transformation of education. The original linear "command and control" leadership model based on action and response may not be effective, which requires the development of leadership in the digital transformation of education, the promotion of efficient growth of leadership in the digital transformation of educational organizations, and the guarantee of steady progress and high-quality landing of digital transformation.

The leadership of educational digital transformation, especially in terms of organizational structure, culture and effectiveness, inherently affects the digital awareness of organizational members. It contains a basic standard, that is, leaders must have digital skills and knowledge, so it is necessary to cultivate leader's digital value, digital evolution and digital growth consciousness. Specifically, we can start from the following aspects: first, actively connect and promote transformation projects within and among organizations, and explore new network models for research, teaching and governance; second, establish support and consultation mechanisms to create physical and virtual space for the exchange of new ideas and new ideas for digital transformation; third, establish support and consultation mechanisms for the exchange of new ideas and new ideas for digital transformation. The third is to establish a mechanism for continuous evaluation and monitoring of organizational culture, so that the information of transformation practice can flow rapidly throughout the organization, especially to decision makers; the fourth is to develop and deploy future

scenarios, and actively test the resilience of the organization according to various future results; Fifth, promote effective change cooperation that can lead to the digital transformation of education, and better coordinate and expand the interaction network that already exists among the core forces of students, teachers and managers. Moving from organizational charts to securing these networks allows for better information flow. For example, in the digital transformation of Cantonese education, the combination of video lesson recording and online interactive lesson design strengthens students' knowledge absorption and ability practice in the learning process, and also provides a successful example for organizations in the transformation process.

5. Conclusion

The digital transformation of Cantonese education is an important combination of technology-driven educational innovation and language and cultural heritage. Through the practice of standardized courses and online interactive courses, students can not only flexibly arrange their learning time, but also accurately grasp the nine tones, six pitches, initials, finals and grammar of Cantonese, and improve their language use ability in real interaction. This model significantly optimizes the learning experience and provides a new path for the efficient development of Cantonese education. Digital transformation is a process of continuous

development, which requires continuous improvement of practical methods in technological progress. In the future, how to further use digital technology to improve teaching accuracy and coverage is still the direction that Cantonese education needs to explore.

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