

Data intelligence empowering undergraduate characteristic talent training—Typical cases of digital transformation of education in Sanya University

Yuan Yuan

Sanya College, Sanya Hainan 572022

Abstract: with the rapid development of science and technology, the state has paid more and more attention to informatization, and has made the strategic decision of network power and digital China. Among them, the relevant departments of the state emphasized the combination of the development trend of information technology, promoting the reform and innovation of education, combining the experience of large-scale online education, updating and adjusting the education and teaching philosophy, adjusting and changing the education and teaching forms. “Implementing the strategic action of educational digitalization” is the key to speeding up the construction of educational modernization in China. Its application in educational work is also conducive to improving the overall quality of education. Based on this, this paper analyzes and studies the cultivation of undergraduate Characteristic Talents with data intelligence empowerment for reference.

Keywords: data; Intellectualization; information technology

1. The core reasons of digital transformation of Education

In September 2020, UNESCO, the International Telecommunication Union and the United Nations Children’s fund jointly released the digital transformation of Education: School connectivity, student empowerment, and focused on the digital connectivity of education. In recent years, the application of digital education in China has been continuously improved. With the empowerment and support of educational information technology, in the face of complex world patterns and changing characteristics, international exchanges and cooperation in education still need to be continuously improved. As a form of technological change, the key of education digital transformation is to promote the innovative development of the education industry, so as to build a new education mode combining online education with school education. In November, 2021, UNESCO released “jointly rethinking our future: a new social contract for education”, which clearly pointed out that “if we want to achieve the goal of peace and justice, we should realize the reform in education”. The development potential of digital technology is relatively large, and only by transforming the technological potential into a realistic development path, To improve the overall quality of education “.

In March of 2022, the National Smart education platform was officially launched, which transformed digital resources into dynamic education momentum and attracted a large number of overseas users. In order to improve the quality of China’s open cooperation and build a national brand, China should continue to promote the openness of education, so as to realize the international exchange and cooperation of online education, better promote the sharing of global online education resources, deepen the construction of education cooperation mechanism through policy support, better solve the problems in education, and build a perfect sharing of educational achievements, Provide support for the community with a shared future for mankind. Digitalization is a means to improve the effectiveness, openness and transparency of the system. The factors driving the digitalization transformation are closely related to the changes in the external environment.

On September 10th, 2018, in a speech at the national education conference, national leaders stressed that in the new era, we should seize the opportunity of development, make layout in combination with the laws of historical development, and further promote the modernization of education with a broader development vision and a more reasonable strategic vision, so as to make layout for an education power. Under the instruction, we Sanya University actively promote the digital development of education and teaching based on our own foundation and conditions. In March 2019, the school of information and intelligent engineering of Sanya University established Hainan’s first high-performance computing center (Supercomputing Center). At present, the construction of phase I has been completed and put into use, and the construction of phase II Industrial Internet base has been completed perfectly. The completion of the Supercomputing Center is enough to highlight Sanya University’s forward-looking understanding of big data and digital teaching. It is also from this year that Sanya University began to carry out the digital transformation of education.

2. The main contradictions of Chinese education in the new era

In the context of the development of the new era, the main contradiction of China’s education is the contradiction between the educational needs of students and school education, and digital transformation helps to better solve this problem. Through the use of diversified teaching methods, it can adapt to the personalized and high-quality development of students, so as to solve the key problems of digital education.

In recent years, the state has done a lot of work in terms of policies and pilot projects to promote the transformation and reform of smart education. From the official announcement of China’s education modernization (2035) to the launch of the National Smart education platform, from the Ministry of education’s promotion of various new pilot education to the action of the Department of science

and technology of the Ministry of education's promotion of smart education demonstration area, and then to the experimental area of the Ministry of education's basic department's promotion of "new teaching and learning mode based on teaching reform and integration of information technology", Its purpose is to promote systematic innovation through smart education, and realize systematic changes in talent training mode, evaluation mode, education public service mode and education governance mode.

At the technical level, the application of intelligent technology is one of the keys to solve the contradiction between supply and demand of education in China. Specifically, the man-machine collaboration brought about by artificial intelligence will replace the simple repetitive mental work and greatly improve the educational productivity.

3. Exploration scheme of realizing digital transformation of education and teaching

3.1 In order to realize the digital transformation of education and teaching, Sanya university first does three strategic "transformations":

The first is to change the concept. The management of the University proposed that "the future university is a combination of the University of physical space and the University of digital space". Each university should use digital twin technology to build its own digital university, and rely on physical space University and Digital Space University to condense a university with eternal spirit and soul. The school has repeatedly raised the importance of digital education at the meeting, and stressed that in the process of improving teaching quality and cultivating high-level talents with characteristics, it should focus on cultivating and refining the teaching achievements in the thematic direction of integration of production and education, digital transformation, etc. for this reason, the school has given corresponding policy support to urge the whole school to change their ideas, Therefore, it has greatly promoted the development process of school education digitization.

The second transformation is the transformation of architecture. "Big department, big function and big service" -- the functional departments of the University carry out the reform of the big department system, establish the management system and mode of big party building, big educational administration, university work and big logistics, and realize the data correlation between students' growth and teaching security. At the same time, we will explore the reform of the Department System of teaching units and the integration of secondary colleges, such as the integration of the College of information and intelligent engineering and the College of technology into the engineering department. While the organizational structure changes, let the data flow.

Third, transfer mechanism. In order to fully mobilize various resources and solve comprehensive problems across fields, Sanya University, iFLYTEK, China Science dawn and other partners have established a joint innovation center of "industry university research and application" to jointly develop and innovate. While actively transforming to the outside world, we are also actively promoting the construction of interdisciplinary virtual teaching and research rooms within the school, making the education and teaching mechanism broader and more flexible.

Nowadays, technological innovation has penetrated into every factor of production and become a real productivity. In particular, the development and application of new generation digital technologies such as artificial intelligence, cloud computing, big data, virtual reality, 5g and blockchain have had a disruptive impact on all walks of life. From the perspective of the development of audio-visual education or education informatization, the technology enabled education innovation movement has been in China for a hundred years. The use of digital technology to establish new education services, implement new methods or form new models has transcended the traditional boundaries and development pattern.

3.2 Three "new" in the construction of digital teaching in Sanya University

The first is the new "infrastructure". In the context of modernization, we should strengthen the overall quality of infrastructure construction, so as to realize the high-quality development of education. In order to promote the construction of new infrastructure, our school adheres to the guidance as the demand, combines the innovative development concept, and makes full use of information technologies such as big data, artificial intelligence, cloud computing, etc., so as to give play to the important value of data and promote the digital development process of education. In the current era, only by improving the infrastructure can we better improve the dynamic monitoring ability, enhance the overall timeliness and accuracy of data, and strengthen the ability of trend analysis.

The construction of new infrastructure for education is an important part of the country's new infrastructure, a driving force for education reform in the information age, and a strategic measure to accelerate the modernization of education and build an education power. In order to promote the construction of new infrastructure, our school adheres to the demand orientation and innovation orientation, and deeply applies 5g, artificial intelligence, big data, cloud computing, blockchain and other new generation information technologies, so as to give full play to the role of data as a new production factor and promote the digital transformation of education. Through the construction of new infrastructure, improve the dynamic monitoring ability of education development, improve the timeliness and accuracy of data, and strengthen the ability of accurate trend analysis.

After the completion of the Supercomputing Center, we should do a good job in upgrading and reform, improve the overall quality of education development, and sort out the macro data of education and economic development. At the same time, the school is also actively implementing classroom design and building smart classrooms to provide strong infrastructure support for digital education. Such as Saxo Bank Trading operating system and trading Laboratory of Shengbao financial technology business school. The trading laboratory has nearly 100 simulated trading seats, more than 300 large and small screens, dense charts and trading data. It can be said that the new infrastructure of Sanya university has made our digital education and teaching foundation more solid and powerful.

The second is the new model. With the support of the new infrastructure, the school has started the construction of mixed teaching

mode. Blended teaching breaks the boundaries of time and space, opens up the boundaries of students, schools, classrooms and teachers, and realizes “learning from time to time and everywhere”. Through the docking of Virtual University and real university, create an immersive classroom, so that students can fully participate in the whole learning process with their own multi-dimensional senses. It can be said that the new model makes digital education and teaching easier and smarter.

The third new is the new application. In 2018, the school began to implement data governance research, interdisciplinary virtual teaching and Research Office, smart governance and other applications, highlighting the benign interaction between the practice of education reform and institutional research. Based on the continuous improvement of the digital platform, the decision-makers can clearly understand the basic operation status and obtain important information by selecting the key operation indicators and comparison objects of the school development and determining the benchmark targets. New applications make digital education and teaching more grounded and practical.

4. Sanya university has achieved the following four major achievements in implementing digital education

4.1 The utilization rate of teaching space has been greatly improved

Based on the needs of various types of space management and services, the school provides smart space management, smart campus applications, spatial data analysis and other spatial intelligent services in combination with Internet of things, artificial intelligence, big data analysis and other technologies to promote the intelligent upgrading of teaching space. In order to better carry out the construction of digital education, the school has built a number of smart classrooms and digital course recording and broadcasting rooms. Through the digitization of teaching space, the utilization rate of classroom, laboratory and other teaching space has been improved, and the efficiency has been greatly improved while saving resources.

4.2 The innovation ability of teaching paradigm has been greatly improved

More than 300 digital courses, 2 digital teaching platforms and 4 digital experimental platforms. These digital resources not only effectively promote students’ autonomous learning, but also greatly improve students’ practical ability and digital level in experiment.

4.3 The management level of modern school affairs has been greatly improved

The school strengthens the sense of service, takes the transformation of multi scenario applications as the starting point, takes the matters and businesses that teachers and students work and learn the most closely as the breakthrough point, and takes data governance as the core to build a four in one management mode, which fully combines the school affairs concept, information technology, school affairs process and management mode, so as to realize the overall innovation and promote the digital transformation of school affairs governance, Build a high-quality education operation mechanism, so as to better carry out the school management work.

4.4 The service ability of campus intelligent management has been greatly improved

Smart canteen, smart energy control, new campus retail, smart logistics - with the help of modern equipment and information technology, the school promotes the intelligent transformation of traditional logistics services, builds a comprehensive smart campus service guarantee system and service platform, adheres to the principle of “people-oriented, experience first”, and strives to achieve “convenient campus, high-quality service”, Improve the efficiency of teachers and students and the sense of gain and security of learning and life.

The strategic significance of digital transformation of education is in the same vein as digital China and digital economy, and it is the trend that education actively adapts to the new round of scientific and technological revolution. From the perspective of digital society, Sanya University rethinks the talent training specifications, optimizes and upgrades the digital learning environment, changes the teaching and evaluation mode, promotes the innovation of system and mechanism, establishes an inclusive, fair, green, high-quality and sustainable intelligent education system that adapts to the intelligent era, and improves the continuous learning system that can be learned at all times, everywhere and for everyone.

In the face of the opportunities brought by digitalization, Sanya university is actively exploring the training scheme of data intelligence enabled undergraduate talents, and striving to promote the development process of education digitalization. In the future, Sanya University will work together to meet and respond to the challenges brought by digitalization and fully promote the high-quality development of education.

References:

- [1] Fei Shi Replacing training with competition, the data intelligence innovation competition empowers data talents [j]China informatization, 2020 (1): 1
 [2] Jiali Teng Media art talent training: Digital empowerment and ideological and political education [j]Media Forum, 2022, 5 (6): 3

[about the author] Yuanyuan (1984.04-), female, from Sanya, Hainan Province, Bachelor of Arts, Sanya University, supercomputing specialist, intermediate reporter, research direction, radio and television editor.