DIGITAL LEARNING AND TEACHING TECHNOLOGY IN CURRICULUM PRACTICE IN JIANGXI, CHINA

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ABSTRACT

This study explores the implementation of digital learning and teaching technologies in the new curriculum practice in Jiangxi Province, China. The arrival of digital technologies has transformed traditional educational practices worldwide, and China has made significant strides in integrating digital tools and resources into its education system. Research methodology use is explanatory research design, incorporating both quantitative and qualitative data collection where sample of teachers (200) and students (200) from Nanchang Institute of Technology involved. The quantitative phase involves surveys and assessments to measure the extent of digital learning and teaching technology. and teacher effectiveness. The qualitative phase includes interviews and observations to gain a deeper understanding of the challenges, opportunities, and perceptions surrounding digital learning and teaching in the new curriculum practice. The findings of this study have significant implications for educational policymakers, school administrators, teachers, and students. By exploring the current state of digital learning and teaching in the new curriculum practice, the study contributes to the existing literature on educational technology in China and provides insights into effective strategies for leveraging digital technologies to enhance teaching and learning outcomes. The research outcomes can be used to inform the development of evidence-based policies and practices that optimize the integration of digital tools and resources into the education system, ultimately improving the educational experience and outcomes for students in Jiangxi Province and similar contexts.

Keywords: *digital learning; teaching technology; curriculum practice; educational policy*

1. INTRODUCTION

The widespread technology of digital learning and pedagogical technologies in China has resulted in significant shifts within the country's educational system. These shifts have been brought about by the rise of China as a global economic power. Invention of digital learning and teaching has been a major contributor to the change in the education system in China, and it has had a considerable impact on the way in which students learn and on

the way in which teachers teach. China's education system has undergone a significant transformation because of the introduction of digital learning and teaching. In recent years, the government of China has made significant investments in both digital learning and educational technology. These investments have helped to propel China to the forefront of global educational technology (Cui et al., 2023).

Not only has the Chinese government been investing in the development of digital teaching tools, but it has also been investing in the creation of digital learning platforms. These kinds of tools include things like online teaching platforms, online assessment systems, and interactive teaching tools, to name a few examples. These technologies are designed to make education more efficient while also assisting teachers in more effectively engaging with the students under their care. Additionally, the government of China has been investing in the production of content for digital educational platforms. This is part of an ongoing initiative. This content includes online courses, interactive educational resources, and digital versions of traditional textbooks. The goal of the material presented here is to broaden the range of educational opportunities available to students and to enhance the overall quality of the educational experiences they have (Ferri et al., 2020). In addition, the government of China has been making investments in the development of digital educational and pedagogical materials. These resources are available online and include digital textbooks, online libraries, and other educational products available online. The purpose of these materials is to make education more approachable for students and to increase the number of educational opportunities that are open to them.

The Chinese government has been investing in the research and development of digital educational and instructional technology in recent years. These resources are available online and include digital textbooks, online libraries, and other educational products available online. The purpose of these materials is to make education more approachable for students and to increase the number of educational opportunities that are open to them. Moreover, the Chinese government has been investing in the research and development of digital educational and instructional technology in recent years. These technological advancements include things like artificial intelligence, machine learning, and virtual reality, amongst other things. The purpose of these technologies is to make learning more productive and to assist teachers in more effectively engaging with the students who are under their tutelage (Burbules et al., 2020). According to 'Lytras, 2022', the widespread technology of digital learning and teaching technology in China has resulted in significant shifts in the country's educational system. These shifts have been brought about by the introduction of new technologies. The necessity of enhancing the quality of education as a whole while simultaneously broadening access to it for all students has been the driving force behind this expenditure. Over the past few years, the government of China has made substantial investments in the development of digital learning platforms, digital teaching tools, digital learning content, and digital learning and teaching resources. The purpose of these investments is to make education more engaging for students and to provide them with an increased number of learning opportunities as a direct result of their implementation.

1.1 Problem Statements

In the province of Jiangxi, many of the schools suffer from a lack of resources and infrastructure that are essential for supporting digital learning and technology in the new curriculum practise. Access to computers, the internet, and various other digital tools are included. A significant number of teachers in Jiangxi Province do not have the appropriate training to use digital learning and technology in an efficient manner in the classroom. Training in how to use digital tools, how to design engaging and interactive lessons, and

how to evaluate student learning are all included in this (Salas-Pilco et al., 2022). A significant number of students in Jiangxi Province are not participating in the digital learning and technology practises required by the new curriculum. This is as a result of a lack of understanding of how to use digital tools, a lack of interest in the subject matter, and a lack of motivation to learn about it. Parents in Jiangxi Province are opposed to the implementation of the new curriculum practise of digital learning and technology. This is due to a lack of trust in the new curriculum practise as well as a lack of understanding of the benefits of digital learning and technology. The government of Jiangxi Province has not provided sufficient support for the implementation of the new curriculum practise, which prioritises digital learning and technology. This includes a lack of funding for digital tools and resources, as well as a lack of guidance and oversight for the implementation of digital learning and technology in the classroom. Neither of these issues has been adequately addressed (Organization, 2022).

Teachers in Jiangxi Province, China, are open to learn about new technology and are willing to tackle both hardware and software issues. The Education Department of the Jiangxi Provincial Government has launched a variety of programmes to encourage the use of technology in classroom settings and academic pursuits (Meng et al., 2023). For instance, the department has offered professional development courses for educators on the installation and use of new hardware and software, and it has encouraged educational institutions to acquire and implement such technology. In addition, the department has developed a forum in which educators can discuss the application of emerging technologies and share their experiences and insights gained from doing so. In outlying regions of Jiangxi Province.

1.2 Research Objectives

This paper explains the first stage of research project. The objective is to reflect the teacher's thinking about the theoretical framework and research design availability and quality of digital learning infrastructure in Jiangxi schools. This action will lead researcher to next level of action and finding.

1.3 Significance of Study

Understanding the current level of digital learning and teaching technologies, as this study does, has the potential to significantly alter the educational environment in Jiangxi, China. The research intends to evaluate infrastructure, teacher training, student involvement, parental attitudes, and government assistance to identify important difficulties and opportunities in integrating digital technology into the curriculum. The findings will be critical for policymakers, educators, and stakeholders in establishing focused measures to boost digital literacy, improve educational outcomes, and bridge the digital divide. This study has the potential to inspire similar efforts in other parts of the world, which will further the cause of educational equality and progress.

2.0 LITERATURE REVIEW

There has been a significant rise in the amount of attention paid to the significance of online education in the education sector of the Chinese economy for the foreseeable future as a direct result of the widespread spread of Corona. This is expected to continue for the foreseeable future. Users now have access to a diverse selection of online learning

environments as a direct result of the development that has taken place in the field of online education (Alam, 2021). They need to place a greater emphasis on the open education portal in order to give users access to educational resources of a high quality for the purpose of future development, and this can only be accomplished if they do so. The evaluation methods that are currently being used need to be adapted so that they can be applied to online education if it is to have any chance of surviving in the long run. They should encourage collaboration between higher education institutions such as universities and colleges in order to advance educational excellence. These institutions include colleges. The Beijing Normal University has developed technological solutions to mitigate the effects of COVID and is training the next generation of teachers to be more resilient in the face of emergencies of a similar nature (Zhu et al., 2022). In addition, the university has developed technological solutions to mitigate the effects of COVID. As a result of the current situation in China, novel ideas are required, as is a heightened focus on the necessity of conducting more research and studies and expanding the number of educational opportunities that are currently available.

2.1 Equitable and Robust Future of Education

In order to provide additional references for online education, a framework needs to be developed, and as a direct result, additional potential standards need to be developed as well. The only locations that have the potential to function as an institute and assist individuals in remaining current at that time are online platforms (Saud et al., 2020). In addition to this, the educational curricula as well as the approaches that are taken in the classroom need to be re-examined in light of the requirements that will be necessary in the foreseeable future. Education has the potential to be a very effective tool for levelling the playing field in a world where inequality is so pervasive, such as the one we live in today. This is because education has the potential to level the playing field. Right now is the best time to start laying the groundwork for a future educational system that will be more robust, equitable, and comprehensive than it is today. This will be to the advantage of subsequent generations.

The traditional method of education was rendered ineffective for each and every one of the students as a result of the pandemic (Pham et al., 2022). The increased reliance of Students on online classes has resulted in a decrease in the level of self-confidence the Students feel they possess in themselves. On the other hand, the length of the online classes has been significantly shortened, and the primary focus is now on the completion of independent homework assignments at home. Due to the fact that the students' classes were given over the internet, they were putting themselves in a potentially hazardous situation for their eyes. However, in order to get around this limitation, the instructor would give the students audio recordings of the chapters that had already been recorded so that they could only learn by listening to them. This would allow the students to bypass the limitation. China is a developed country in spite of the lockdown, and educational endeavours have continued thanks to the assistance of and through the utilisation of technology (Nam et al., 2022). To take advantage of opportunities for online learning, including internet-based distance education and online classes, China was better prepared than other countries.

Despite the severity of the situation, the government was able to continue business as usual because they had a policy in place that allowed for flexible educational options. This is an additional consideration that must not be disregarded in any way. They did so for the very first time on February 17, 2020, when they made a website portal accessible to the general public. Students in Jiangxi, China were able to acquire digital versions of the study materials, which made it significantly simpler for them to participate in online

classes as well as examinations (Wang et al., 2022). In addition, on March 3rd, they made an announcement stating that they will improve broadband connection throughout rural areas in order to provide residents of those areas with access to online educational opportunities. After students were allowed back into the university and classes were resumed, the appropriate precautions were taken to ensure that they remained safe while they were there. This included taking appropriate security measures. The lockdown was ended when classes resumed, and there was no further disruption.

2.2 Broadband Internet and Cloud-Based Education Platforms

Because broadband internet connections have made their way into China's more rural and underdeveloped regions, a significant number of students from China's more remote and underdeveloped regions have been able to reap the benefits of digital education. They make it a priority to acquire the most prestigious degree that can be earned through the use of the internet (Mishra & Tyagi, 2022). Students in rural areas now have the opportunity to participate in non-traditional forms of education thanks to increased access to online resources. Some examples of these resources include massive open online courses (MOOCs). They were unable to reap the benefits of education in the past because the areas in which they lived were not developed enough to support such endeavours. This prevented them from gaining access to educational opportunities. But now that they are in this position, they are able to devote their full attention to their academic pursuits. At the same time, however, they are beginning to think about the future and the careers that they will pursue after graduation.

Blackboard has now expanded its presence to 270 different educational institutions that are located within China. This was made possible with the assistance of CerBibo, a company that specialises in the provision of online education in China. The widespread technology of Blackboard as a result of this is directly responsible for its success in China. It has established a presence in a sizeable number of China's online education and facilities for distance learning. In addition to that, they provided a comprehensive selection of services, some examples of which include web conferencing, mobile learning, e-learning, and numerous forms of technology designed specifically for the purpose of sending out mass notifications, amongst a great number of other options. Each and every organisation and establishment will become helpful as quickly as is physically possible by utilising these platforms in their day-to-day operations (Haleem et al., 2022). In addition to this, in the not too distant future, each and every person will be able to benefit from this technology. This is because people who do not own a laptop, desktop computer, or any other type of device will simply be able to use their phone for the purposes of e-learning or education, and they will not be required to purchase any additional equipment. This will be doable because scientific and technological progress will have progressed to the point where it is feasible to carry out such an endeavour.

An award was just recently given to Ambow Education Holding by the Chinese ministry of education in order to assist the company in achieving its goal of developing China's first cloud-based education system and data platform. Because of how easily accessible this platform is, a significant number of students who are interested in pursuing a career in teaching will have the opportunity to participate in a course that is conducted over the internet (Saud et al., 2020). This will be a vital component of their training for entering the field of education. Students have access to communication, collaboration, rich media content, and completely enriching expertise through this platform, all of which are hosted in the cloud.

This platform also provides students with the ability to share their work. Students also have the opportunity to publish and distribute their work through this platform. It is

beneficial not only to students who are enrolled in teaching programmes but also to any student who is pursuing their education online. Students who are pursuing their education online can especially benefit from this. Students who are pursuing their educations online can benefit from this in a particularly significant way (Szymkowiak et al., 2021). It is anticipated that cloud-based education will become increasingly commonplace in an increasing number of educational institutions as new forms of technology become available and more people acquire the skills necessary to use them. It not only had a significant influence on the futures of the students, but it also had a significant influence on the future of China.

2.3 Educational Opportunities to Students Worldwide

In spite of the fact that in recent years the market for digital education in China has experienced explosive growth, there are still a great deal of requirements that have not been satisfied in the country as a whole. Big international companies like Blackboard, which is based in the United States, are demonstrating an interest in the education market in Chain. Additionally, some American colleges and universities are working to flip the model of online education that is offered by chains on its head. The existence of this example makes it abundantly clear that foreign investors are beginning to show interest in the digital learning potential of China (Zou et al., 2022). This is something that has been made abundantly clear by the existence of this example. As a direct consequence of this, China has completed the process of filling all of the holes that were present in its digital education system. At the moment, the most interesting companies in Chains are concentrating their efforts on the creation of online education and educational technologies. The China Education alliance is an organisation that exemplifies this idea and serves as an example. This organisation makes available educational resources that are available on the internet, in addition to providing onsite training for its members.

Over the course of the past few years, China has set up a number of educational relay stations. Students who are unable to connect to the internet from their homes can make use of the internet connections and online learning resources that are made available by these distance education centres. These students can do so by visiting one of these centres. Students living in more remote parts of the country are increasingly taking advantage of the online educational opportunities provided by off-campus learning centres (Poon & Tang, 2023). The Chinese Ministry of Education has given its approval to 68 universities, which will enable those universities to provide their students with cutting-edge methods of education through the utilisation of contemporary forms of distance education. It is expected that in the not too distant future, these educational centres will become more open as a direct result of the increased availability of resources and the growing demand for the stations.

According to Shehzadi et alresearch .'s from 2020, China is not only expanding the number of online education programmes that are offered within the borders of the country, but they are also making opportunities available to students from other nations. It will be beneficial to them in terms of contributing to an increase in their total revenue. In spite of the fact that China has historically placed a high value on education at a distance, citizens of the country have recently demonstrated a keen interest in the process of digital learning (Pregowska et al., 2021). This is the case despite the fact that China has traditionally placed a high value on education at a distance. This fascination extends beyond the utilisation of resources developed in other nations to also include those developed within the individual's own country. Students attending educational institutions in Chongqing, such as Southwest University, are being given access to the online education systems that those institutions offer. Other educational institutions in the city

include Chongqing Normal University. As a direct result of the Chinese government's establishment of 68 universities across the country, students from both inside and outside of China now have much easier access to the Chinese online education system. This change came about as a direct result of the Chinese government's establishment of 68 universities across the country. It will be to China's advantage in the future to broaden the availability of its online educational opportunities to other regions of the world (Zhou et al., 2020).

In recent years, educational institutions in China, including colleges and universities, have initiated the provision of open and free classes as part of their ongoing development of online education. The research conducted in 2020 by Williamson, Eynon, and Potter can be cited in this instance. Students from all over the world are able to access the open and free courses that are provided by numerous Chinese universities and colleges because these institutions are members of the International Open Courseware Consortium. There are three distinct categories of classes that are available for enrollment on the profile of the Hong Kong University of Science and Technology that is hosted on the website for the online education provider Coursera (Li & Wong, 2019). They make educational resources openly available, which contributes to the growth of open education not only in Chinese universities but also in universities located in other countries around the world. It will have a favourable effect on how the rest of the world views China, which will make it easier for the Chinese government to establish and maintain positive relationships with other countries in the days, weeks, months, and years to come. In addition to this, it will be beneficial to students all over the world who are excluded from the opportunities that are available to them.

According to those who are knowledgeable in the subject, the landscape of mobile learning is about to experience something akin to a seismic shift in the days and weeks to come. A multitude of educational resources, such as Coursera, are devoting a significant amount of time and energy to the development of mobile learning, which will provide Chinese students with the opportunity to continue their education from any location of their choosing. The experts in this field are anticipating that the students in China will approach the issue from a more holistic perspective as a result of the fact that a significant number of students in China will receive their education via Facebook and other mobile devices (Wylleman, 2019). Already, there has been a discernible increase in the overall number of people using the platform known as Coursera. This development is very encouraging. This study focus on different aspect of digital learning.

2.4 Theoretical Framework

2.4.1 Technological Pedagogical Content Knowledge (TPACK)

For educators to fully grasp the potential of technology integration, they need to have a firm grasp on this framework. TPACK emphasises the convergence of three basic forms of knowledge: Content (CK), Pedagogy (PK), and Technology (TK). Understanding how educators in Jiangxi combine these different kinds of information to design powerful online classrooms can be aided by this approach. Insights into the forms of professional development needed to improve teachers' abilities to use digital resources effectively in curriculum practise can be gained through its use.

2.4.2 Diffusion of Innovations Theory

This hypothesis, proposed by Everett Rogers, describes the causes and dynamics of innovation diffusion in social systems. This idea can help us make sense of the uptake (or lack thereof) of edtech by Jiangxi's classroom instructors, students, and parents. It can shed light on the social norms, perceived benefits, and role of change agents that contribute to the acceptance and effective application of digital learning tools. Jiangxi schools can use this approach to better understand how to implement digital learning tools.

2.4.3 Conceptual Framework

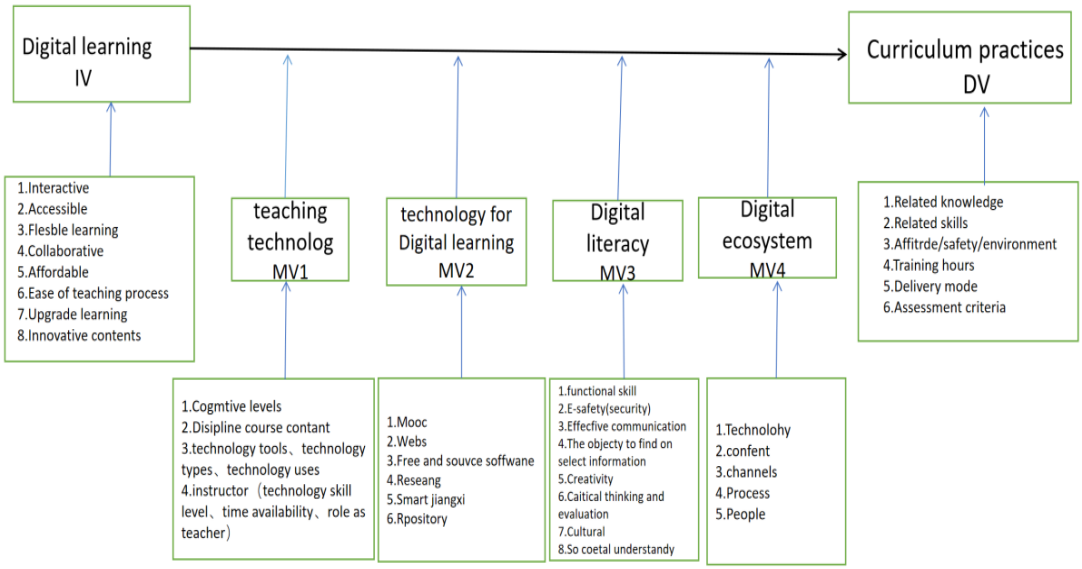

Figure 1: Data Analysis Conceptual Framework
Source: Developed for this research

3.0 METHODOLOGY

This research project will use a quantitative approach to examine the state of digital education in Jiangxi Province, China. Nanchang University of Technology serves as the major data gathering source for this study. Two hundred individuals have been selected at random for this study: one hundred pupils and one hundred educators. Participants' experiences, perspectives, and skill levels with digital learning technologies will be measured through the use of standardised questionnaires. Students will be asked about their use of and satisfaction with various digital resources, as well as their thoughts on the digital curriculum as a whole, in a survey. The survey is designed to learn more about teachers' experiences with and attitudes towards using technology in the classroom. All of the survey questions had a Likert scale option for respondents to rank their responses on. Statistical tools will be applied to the obtained data in order to spot trends, connections, and contrasts between students' and educators' perspectives. This approach will provide a full knowledge of the current state of digital learning in Jiangxi and inform plans for improvement.

4.0 FINDINGS

In light of these findings, it is clear that there is a pressing need to provide teachers with better resources and more extensive training in the use of technology in the classroom. The report also provides insight into how students, educators, and parents view digital education. While there is undeniable excitement about the potential of digital technologies among both kids and educators, there are also clear barriers, including a lack of resources, inadequate training, and reluctance from some parents.

These findings highlight the importance of government aid in closing these gaps. To create a setting that is beneficial for online education, more resources, legislation changes, and community involvement are required. This research not only contributes to the academic understanding of digital education in a specific geographical context but also gives actionable advice for politicians and educational institutions. Jiangxi's inclusive and technologically advanced educational landscape can be used as a model for other regions that have successfully integrated digital technology into their own systems.

Table 1: Reflection on conceptual framework research design in Nanchang University

Hello, **teachers** based on your current teaching project, please answer all questions below.
1. What was the wider theoretical significance of your reading? (50 words)
Critical Reflection on theoretical significant of own research
The reading has greater theoretical significance for understanding the context of curricular practises in Jiangxi Province, China, and the integration of digital learning and teaching innovation. It explains how digital learning can improve curriculum implementation and student learning outcomes and sheds light on the impact of digital technologies on education.
2. How do you realize some new knowledge? (<50 words)
Critical Reflection on new knowledge
The results of this investigation into the interplay between digital education, pedagogical tools, tools for digital learning, digital literacy, an ecosystem optimised for digital learning, and curricular norms can yield important new insights. Researchers and teachers can learn from the study's findings and interpretations by delving deeper into the topic of digital learning and its many nuances.
3. Why were the conceptual frameworks in that way? (<50 words)
Critical Reflection on conceptual frameworks of own design
Digital learning, teaching technology, technology for digital learning, digital literacy, and the digital ecosystem are just some of the factors that were considered when developing the conceptual frameworks. This framework permits a methodical investigation of the elements that play into the fruitful introduction of digital learning initiatives in the context of Jiangxi Province.
4. What is the conceptual significance of the evidence? (<50 words)
Critical Reflection on conceptual significance of the evidence
Evidence's conceptual value comes from the empirical backing it gives to the framework's proposed relationships. The study's findings lend credence to the hypothesised links among digital education, educational technology, digital literacy, digital ecosystems, and pedagogical practises. It bolsters our understanding of the topic and the existing literature by providing additional empirical support.
5. Why does the thesis contribute to knowledge? (<50 words)
Critical Reflection on contribution of knowledge

This thesis adds to the body of knowledge by shedding light on how to practical implement technological advances in education. It helps us better understand the difficulties, possibilities, and outcomes of implementing digital learning initiatives in educational settings, and it does so by focusing on the specific context of Jiangxi Province in China. The thesis contributes to the literature on online education and curriculum design, thereby influencing the direction of future studies and classroom practises. Paper publication; Book publication; Smart Teaching Model

N= 200

However, we also anticipate uncovering challenges such as the need for additional training and the potential technological issues that may disrupt the teaching process. Lastly, we foresee that the qualitative phase of the study will highlight the perceived opportunities and challenges of digital learning and teaching from the perspective of teachers and students. While the opportunities may encompass improved accessibility, flexibility, and quality of education, the challenges could include disparities in digital literacy and access to resources.

The findings of this study are expected to provide critical insights into the real-world application of digital learning and teaching technology within the new curriculum practice in Jiangxi Province. These insights will help to inform policies and practices that effectively leverage digital technologies to improve the quality and reach of education in the region.

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