

# Digital teaching and learning development practice and management in Western Chinese universities

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## Abstract

This study aimed to understand the development, practice and management of digital teaching and learning in universities in western China and used descriptive research method to study 438 participants who took part in the questionnaire, the results of the study showed that the participants were predominantly male, mostly middle-aged and young people with a bachelor's degree, and most of them had been working for less than five years. The aim is to use digitalisation to demonstrate its impact on the development of universities in western China. More specifically, it aims to describe the effectiveness, perceptions, and achievements of respondents' teaching competence in a digital media environment; determine the accuracy, quality, and outcomes of in-process performance; assess professional development in terms of knowledge and skills, improvement, and efficiency; and determine the effectiveness of respondents' teaching competence in digital media environments, as well as differences in the responses of Chinese teachers to cognitive tests of teaching competence, performance, and professional development; To examine differences in teaching competence, performance, and professional development in digital contexts in universities in western China (grouped by personal information); to establish relationships among three variables (developmental, practical, and managerial); and to propose and improvement plan for digital teaching and learning. The results of the study show that sound technical support, the use of advanced digital teaching methods, and the use of assessment practices significantly contribute to the promotion of the development of university teachers in western China. Teachers in western China used training and further education to achieve good digital teaching results. In addition, the study recommends that future researchers root themselves in western China to conduct adequate research so that academics can study this area in depth.

**Keywords:** digital teaching and learning, digital development, digital management

## Digital teaching and learning development practice and management in Western Chinese universities

### 1. Introduction

With the arrival of the era of big data, the construction of digital campuses in colleges and universities has become an inevitable trend of higher education reform, which is also conducive to the improvement of the teaching level of colleges and universities, the overall growth of students and the standardized management of students. In October 2022, General Secretary Xi Jinping proposed in the report of the 20th Party Congress. Xi (2022) proposed, "Promote the digitization of education, and build a learning society and a learning nation with lifelong learning for all." Digital teaching is still deficient in the process of teaching and learning in universities in western China, which is caused by various reasons, such as the lack of training for professional teachers, the shortage of doctoral degrees in higher education, and the insufficient number of teachers who are able to make use of electronic and inclusive media technologies, and so on. Compared with the limitations of traditional Chinese-style teaching, the modernization of Chinese-style teaching can promote the high-quality and balanced development of teaching, push forward comprehensive and individualized education, guarantee the local integration of teaching, and help the intelligent digital transformation of teaching. (Zhuo et al.,2024).

In the constructivist teaching model, teachers in order to provide students with better "scaffolding", need to provide students with adequate learning resources, and learning resources media is not only the transmission of information "channel", but also constitute the cognitive activities of the practice space and The medium of learning resources is not only a "channel" for the transmission of information, but also a practical space and field of cognitive activities. At the beginning of this century, China's education informatization has risen to the level of national strategy. (Wang, et al.,2022). Educational digitalization has emerged as a crucial focus in China's education reform and governance efforts. In 2018, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Comprehensively Deepening the Reform of Teacher Team Construction in the New Era," highlighting the importance of teachers' proficiency in applying digital technology as a key aspect of teacher team development. Subsequently, in 2021, the "Guiding Opinions of the Ministry of Education and other six departments on promoting the construction of new educational infrastructure and building a high-quality education support system" emphasized the imperative of promoting digital transformation in education to facilitate the high quality development of the educational sector. Teachers are important participants in the digital transformation of education.

Currently, there are some problems in the process of digital teaching practice in western Chinese universities, such as the lack of digital teaching practice training and too little practice exchange. At present, the construction of digital teaching resources is effective, but digital teaching resources are generally of low quality, low degree of interaction, narrow application coverage and other problems. The construction of digital teaching resources is one of the critical aspects in the digital transformation of vocational education. Taking the major of modern mobile communication technology as an example, this article proposes a path for the construction of digital teaching resources in the field of higher vocational education, focusing on aspects such as the establishment of concepts, contradiction orientation, goal -driven, technology enabling, continuous optimization, digital literacy enhancement, and ideological and political education integration into courses. In specific practice, various digital teaching resources have been constructed with high standards, achieving good results in teaching achievements, curriculum development, skills competitions, practical training bases, and educational research projects.

The educational application of digital technology has impacted the role of teachers, and the new form of digital education has put forward new requirements for teachers' professional abilities. In the process of perfecting digital education and digital education practice, how to integrate digital education applications into the daily routine of universities in western China has again become a top priority for the development of universities

in western China. According to Liu et al. (2024) to Comet, the centralized management, distribution and application of digital teaching resources can be achieved through the strategy of establishing a shared management platform for digital teaching resources. Specifically, the development and promotion of standards and protocols for the application of digital teaching and learning resources can ensure the inter-operability and combined application of different resources in the development of digital teaching and learning resources. At the same time, it is possible to focus on strengthening in-depth research and technological innovation on digital teaching resource platforms and developing more intelligent and efficient digital resource application and sharing platforms, so as to effectively promote the standardization and normalization of the sharing and application of digital teaching resources. (Liu et al., 2024).

In the era of digital education, teachers should not only be proficient in using common digital technologies, but also have digital thinking and sensitivity to data. As important participants, practitioners, promoters and beneficiaries of the digital transformation of education, teachers' professional ability structure is related to the effective implementation of the digital transformation of education in China. However, in the process of the development of digital transformation, there are still problems such as the lack of understanding of digital transformation by some teachers, the imperfection of related education and training courses, the lack of digital training mechanisms, and the unbalanced supply of digital resources. Digital education teaching, digital education practice, digital education management, in the current environment in order to become an inevitable model for the development of universities in western China. Application development not only requires a relatively complete software and hardware environment to support, more importantly, there must be a large amount of information to meet educational needs and provide high-quality digital educational resources.

**Objectives of the Study** - This study aims to understand the development, practice and management of digital teaching and learning in universities in western China, and to use digitalization to demonstrate its impact on the development of universities in western China. More specifically, this study assessed the respondents' competence in digital teaching and learning practices, including effectiveness of digital web use, perceived competence in digital web media, and digital campus outreach accomplishments. This study also assessed the respondents' competence in digital teaching practices, including accuracy of digital network use, massing of digital teaching practices, and outcomes based on digital campus practices. Professional qualities and professional competencies as teachers in terms of knowledge of modern technologies, classroom management, pedagogical innovations and professional development. In addition, the management of digital teaching was finally assessed, specifically assessing the management of digital knowledge and skills. The study also examined whether there were significant differences in digital teaching competencies, digital teaching practice methods and assessment practices. Significant differences in assessing digital teaching and learning with respect to digital teaching practices and management of digital teaching and learning. In addition, the study examined significant relationships among the three variables. Based on the findings, the study proposed an enhanced faculty development program to address the identified areas for improvement.

## 2. Methods

**Research Design** - This study employs a descriptive design to understand, describe, interpret or validate the specific situation of a particular population. The phenomena or situations investigated are not subject to any manipulation or control by the researcher. Instead, the researcher witnesses and measures them. Descriptive research is often used to gather information in order to pinpoint the problem for further in-depth or advanced research Siedlecki (2020). In quantitative descriptive research, variables are measured numerically. In line with the objectives of the study, a descriptive quantitative design was used to collect data from the participants and then the data was analyzed in order to describe and explain the teaching of compulsory teachers in China. The study used a questionnaire containing descriptive items to investigate participants' motivations, strategies, and abilities.

**Participants of the Study** - The researcher used random sampling technique to distribute 438 sample

questionnaires. The interviewees are teachers from Chinese colleges and universities, and there are about 1.9 million teaching staff in schools. Accordingly, 438 people from three public colleges and universities, representative of the western part of the country, with more than one year's service, were selected as interviewees. The sample of interviewees was selected by random sampling with no specific requirements. Everyone had an equal opportunity to participate in the data collection process or to answer the questionnaires provided and distributed to them, and there were no duplicates.

**Data Gathering Instrument** - The adapted tool for this study consists of three main components. The first section was based on the Digital Development Questionnaire section of Xin (2018). Respondents were asked to rate their level of agreement or disagreement with each item on a 4-point Likert scale (1 for "strongly disagree" and 4 for "strongly agree"). The second part is based on the Min (2012) digital practice questionnaire of the China Education News. Respondents were allowed to rate the importance of each statement on a scale of 1 to 4 (1 being not important and 4 being extremely important). The third part is based on one of the 26 main questions from the digital management questionnaire section in Xing (2014) in the China Education News. It aims to refine the management approach further.

**Proceedings** - A total of 30 questionnaires were distributed and translated into English and Chinese for easy understanding and approved by the school's publicity department and then distributed using Questionnaire Star. After 30 questionnaires were returned the researcher submitted the questionnaire data to a data analyst for reliability and validity testing and the results are as follows:

**Table A**

*Reliability Test Results*

Indicators	Cronbach Alpha	Remarks
validity	0.963	Excellent
cognitively	0.957	Excellent
accomplishments	0.953	Excellent
accuracy	0.955	Excellent
mass	0.946	Excellent
results-based	0.956	Excellent
Knowledge and skills management	0.960	Excellent
revised	0.952	Excellent
efficiency	0.902	Excellent

*George and Mallery (2003) provide the following rules of thumb: “\_ > .9 – Excellent, \_ > .8 – Good, \_ > .7 – Acceptable, \_ > .6 – Questionable, \_ > .5 – Poor, and \_ < .5 – Unacceptable”*

The overall reliability of the three scales was assessed and the results showed that the reliability coefficients for each scale were greater than 0.9. The reliability between the dimensions and the scales was considered very good.

**Data Gathering Procedures** - A total of 438 questionnaires were distributed by the researcher, which were translated into English and Chinese for ease of understanding and were distributed using Questionnaire Star with the approval of the school's communication department. Another three weeks were allocated to recover the responses from the staff. With the help of teachers, friends and colleagues, the survey was successfully completed and the statisticians conducted a pilot test on the validity and reliability of the questionnaire and other statistical tests.

**Data Analysis** - To perform data analysis, the following statistical tools were used. Weighted means and ranking were used to determine the school heads' leadership self-efficacy in terms of starting and leading change processes in groups, choosing effective followers and delegating responsibilities, building and managing interpersonal relationships within the group, showing self-awareness and self-confidence, motivating people, gaining consensus of group members; technology proficiency as regards leadership and vision, teaching and learning, productivity and professional practice, support, management and operations, assessment and evaluation, and social, legal and ethical issues; instructional supervision in terms of framing the school goals,

communicating the school goals, supervising and evaluating instruction, coordinating the curriculum, monitoring student progress, protecting instructional time, maintaining high visibility, providing incentives for teachers, promoting professional development, providing incentives for learning. The result of Shapiro-Wilk Test revealed that p-values of the main variable was less than 0.05 which means that the data set is not normally distributed. Likewise, Spearman rho was used to test the significant relationship of the treated variables. In addition, post hoc test was also conducted. In addition, all data were treated using a statistical software known as PASW version 26 to further interpret the result of the study using an alpha level of 0.05 and 0.01.

**Ethical Considerations** - The researcher adhered to a full consent through correspondence that was obtained from the respondents prior to the study. She assured that the data gathered were used only for the purpose of this research and were treated with utmost confidentiality. Moreover, the researcher understood that the attached data privacy consent for the respondents signifies their trust and support in the study; thus, should be valued and respected through guaranteeing the confidentiality of the profile and data they provided in the e-questionnaire. The purpose of the study was thoroughly explained to the respondents so as to provide them with adequate understanding of the implications of their participation. Participants were reassured of the protection to their privacy and of the confidentiality of gathered data as guided by the Republic Act 10173 or the Data Privacy Act of 2012, the policy of the State to protect the fundamental human right of privacy, of communication while ensuring free flow of information to promote innovation and growth, (National Privacy Commission, 2011).

The researcher avoided misleading information and bias in this study. No offensive, discriminatory or other unacceptable language was contained in the questionnaire and in any part of the study. The questionnaire was subjected to the critiquing of experts to ensure its face and content validity. Objectivity of discussions and analyses was also maintained throughout the study. To ensure, validity and accuracy of results and findings, the researcher employed the help of the statistician in carrying out the necessary treatments in the study. All works cited in this study were properly acknowledged following the APA referencing rules and verified through plagiarism checker. Furthermore, correctness of the entries along with grammar and mechanics were secured with the help of a grammarian.

### 3. Results and discussion

**Table 1**  
*Summary Table on the Digital Teaching*

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. validity	2.93	Agree	1.5
2. cognitively	2.93	Agree	1.5
3. Accomplishments	2.91	Agree	3
Composite Mean	2.92	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

As shown in Table 1, the mean score of validity, cognitively, and Accomplishments is 2.92 indicating that the respondents recognize the Summary Table on the Developments in digital teaching and learning. validity, cognitively, and Accomplishments score consistently first at 2.93. cognitively scores consistently first for 2.93, Accomplishments followed by 2.91. The above data reflects that the digitalisation of universities in western China is developing rapidly, and its application capacity, infrastructure and teaching applications have shown effective cognitive type and achieved good results. According to Sheng (2023), the practice pathway dimension usually develops strategies to facilitate the realization of human-computer integration in terms of policy, technology, business and human dimensions, to some extent have a greater impact on the development, perception and effectiveness of digital teaching and learning in practice. The table for Digital teaching in terms of Accomplishments. This indicates that universities in western China have made great achievements in this section. Teachers are the foundation of education.

Teachers in colleges and universities bear the glorious mission of cultivating talents for the modernization of China, and they are also the key element in promoting the digital transformation of education (Gong, 2024).

Teachers should establish a sense of lifelong learning, take the initiative to participate in the construction of teaching informatization, and use diversified online resources to improve their comprehensive quality, cultivate their sense of application, and improve their quality management ability, so as to realize the high-level application of digital educational resources and effectively improve the quality of education and teaching. (Liu et al.,2024).

**Table 2**

*Summary Table on Digital Learning Development in Practice in Western Chinese Universities*

Indicators	Weighted Mean	Verbal Interpretation	Rank
accuracy	2.91	Agree	2
mass	2.91	Agree	2
Result-based	2.91	Agree	2
Composite Mean	2.91	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table 2 Summary Table on Teaching Digital Practice in Universities, with a mean score of 2.91 indicating agreement. All three scores were 2.91. The data indicates that teaching digital practice in universities is good in terms of, accuracy, quality and outcome. Based on Accuracy, Mass, and Result-Based all indicate certainty. Universities in western China are steadily advancing in the process of teaching digital practice in big data, and steadily advancing the approach of digitalisation of education, digitalisation of practice, and digitalisation of talent while ensuring the development of high-quality higher education. According to Gu et al. (2023), the biggest difference between digital classroom teaching and the traditional classroom teaching model is that teaching and learning are more "visible", and the data, process, feedback, and results can be "seen". This also means that integrating traditional teaching into the digital classroom for practical teaching is essential.

Liu et al. (2024) argue that strengthening in-depth research and technological innovation on digital teaching resource platforms and developing more intelligent and efficient digital resource application and sharing platforms can effectively promote the standardization and regulation of digital teaching resource sharing and application. Through joint research on competency standards, platform construction and personnel sharing, we will open up a channel to integrate pre-service and post-service teacher digital competency training, realize the progressive development of teachers' professional digital competency, provide support for the lifelong improvement of teachers' digital competency, and help localities to build a highland for digital technology, vocational education and industrial digitization (Cheng, 2024).

**Table 3**

*Summary Table on Digital Media Development Management*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Knowledge and skills management	2.92	Agree	2
revised	2.91	Agree	3
Efficiency	2.93	Agree	1
Composite Mean	2.92	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table 3 Summary Table on Digital Media Development Management Mean score 2.92. indicates agreement. efficiency score 2.93. knowledge and skills management score 2.92. revised score 2.91. This table shows that for revised it is positive. The above data shows that efficiency comes first in the process of Digital Media Development Management and Knowledge and Skills Management also appears to be particularly important and the items related to improvement still need to be strengthened. The Ten-Year Development Plan for Education Informatization (2011-2020) mentions that the basic project and key link of education informatization is to promote the implementation of the construction and sharing of high-quality digital educational resources, and to accelerate the construction of a common and shared environment for high-quality digital educational resources. The National Education Work Conference in 2022 clearly stated the need to continue to strengthen the implementation of the strategic action of digitization of education, and to continuously enhance reform and innovation, which also gave new impetus to the high-quality development of education management.

Wang (2021) believes that the basic concept of traditional college student management work is a one-way management mode with students as the bearers of educational rights. After the integration of information technology into management work, the management mode and management concept have changed, and the main direction of student management has been transformed from the traditional unidirectional management mode of "school-faculty-class-dormitory" to the multi directional management mode of "society-family- school-student". The multi-directional management model of "society-family-school-student". The main direction of student management has changed from the traditional one-way management model of "school-faculty-class-dormitory" to the multi-directional management model of "society-family-school-student". This management model incorporates new digital technology, which has obvious efficiency improvements in teacher education and management, and student feedback, in which teachers do not only start from a single traditional management model, but also use digital data to go for self-learning and enhancement, and make use of comprehensive means to carry out multi-directional management measures. The improved management model has greatly improved management efficiency.

**Table 4**  
*Relationship Between Developments in digital teaching and learning and Teaching Digital Practice*

validity	rho-value	p-value	Interpretation
accuracy	.650**	0.000	Highly Significant
mass	.684**	0.000	Highly Significant
Result-based	.650**	0.000	Highly Significant
cognitively			
accuracy	.666**	0.000	Highly Significant
mass	.667**	0.000	Highly Significant
Result-based	.669**	0.000	Highly Significant
Accomplishments			
accuracy	.648**	0.000	Highly Significant
mass	.669**	0.000	Highly Significant
Result-based	.664**	0.000	Highly Significant

*Legend: Significant at p-value < 0.01*

Table 4 displays the association between Developments in digital teaching and learning and Teaching Digital Practice. The computed r-values indicates a strong direct correlation and the resulted p-values were less than the alpha level. Result reveals that there was significant relationship exists and implies that the better is the development in digital teaching, the better is the teaching digital practice. In the pursuit of educational performance symbols, schools are more and more keen to “create new words” and “chase fashion” around technology-enabled education, and have implemented a series of sensational educational technology innovation and technology application innovations, such as “meta-universe + education”, “GenAI + education” and so on. “GenAI+Education” and a series of sensational education technology innovation and technology application innovation (Zhang et al., 2024).

Digital pedagogical applications are essentially digital teaching and learning processes based on the integration of digital technologies into the teaching and learning process and the utilization of digital teaching and learning resources and tools. The faster digital teaching and learning develops, the better digital teaching and learning practices become. The value and potential of digital technologies represented by Artificial Intelligence (AI), Blockchain, Cloud Computing, Big Data, 5G and Internet (Internet of Things, Internet and Mobile Internet) in education and teaching practices are becoming more and more prominent.

Today's digital technology is no longer limited to teaching knowledge, but has been more and more deeply and widely applied to explore students' potential, stimulate students' interest, improve learning efficiency, and promote educational equity. In particular, during the period of online teaching, the online teaching of all school segments and coverage has promoted the extensive sharing of digital teaching resources in real time in a more inclusive and open way, which provides a solid practical foundation for the regular application of digital technology in primary and middle school education and teaching, and opens up a new opportunity for the application of digital technology in teaching and learning. It has provided a solid practical foundation for the

normalized application of digital technology in primary and secondary education teaching, and opened up a new era of education empowered by digital technology (Luo et al.,2024) Digital teaching feeds digital teaching practice and also reflects the importance of digital campus development in colleges and universities in western China.

**Table 5**

*Relationship between developments in digital teaching and learning and digital media development management*

validity	rho-value	p-value	Interpretation
Knowledge and skills management	.691**	0.000	Highly Significant
revised	.647**	0.000	Highly Significant
efficiency	.658**	0.000	Highly Significant
cognitively			
Knowledge and skills management	.677**	0.000	Highly Significant
revised	.681**	0.000	Highly Significant
efficiency	.694**	0.000	Highly Significant
Accomplishments			
Knowledge and skills management	.656**	0.000	Highly Significant
revised	.679**	0.000	Highly Significant
efficiency	.688**	0.000	Highly Significant

*Legend: Significant at p-value < 0.01*

Table 5 displays the association between Developments in digital teaching and learning and Digital Media Development Management. The computed r-values indicates a strong direct correlation and the resulted p-values were less than the alpha level. Result reveals that there was significant relationship exists and implies that the better is the development in digital teaching, the better is the digital media development management. The better the development of digital teaching and learning, the better the management of digital media development. The use of digital technology, teachers and students can transfer information in a short period of time, the formation of good interaction and communication, so that education administrators can timely and fully tap into the individuality and uniqueness of the student's characteristics, tailored to the student's needs, the implementation of personalized education management (Wang et al.,2023). The digital student information management system provides self-service convenience for students, teachers and faculty (Li, 2023).

The use of digital education in the quest for new knowledge drives digital teaching and learning, and the problems it has can be updated through the continuous development of digital media, leading to meaningful teaching and learning with a more far-reaching impact. Many schools have taken the digital transformation of education as an opportunity to introduce technologies such as cloud computing, big data and artificial intelligence. In the teaching process, they support "digital profiling", "multi-modal data support for homework analysis", "personalized tutoring human-computer collaboration", The digitalisation of teacher education has also begun under the influence of the digital transformation of education, such as "demand-led accurate homework push". The cultivation of digital talents has a huge impact on teacher education. The education field needs professionals who match the development needs of the education industry. Teachers who are proficient in developing educational teaching resources have become very scarce. However, there are still some teachers in the existing teaching force who do not possess the relevant digital literacy and skills, and the development of teachers' digital competence is imminent.

Teachers' different levels of proficiency in using new technologies also lead to differences in the digital teaching and learning process, mainly in the application of teaching resources. The use of traditional resources, such as courseware and multimedia, can accurately convey the content and serve the teaching objectives, usually with the promotion of students' cognitive development as the main pedagogical objective. On the other hand, the use of new educational resources such as teaching software, online courses and multidimensional learning environments tends to be driven more by teachers' intrinsic motivation, i.e., curiosity about new teaching aids, spontaneous research on the content of resources of interest, etc. (Li, et al.,2024) In the process of exploring new knowledge, the use of digital education promotes the development of digital teaching and learning, and its problems can be updated through the continuous development of digital media, thus achieving meaningful



teaching and learning and having a more profound impact on learning.

**Table 6**

*Relationship Between Teaching Digital Practice and Digital Media Development Management*

accuracy	rho-value	p-value	Interpretation
Knowledge and skills management	.702**	0.000	Highly Significant
revised	.673**	0.000	Highly Significant
efficiency	.664**	0.000	Highly Significant
mass (in physics)			
Knowledge and skills management	.674**	0.000	Highly Significant
revised	.685**	0.000	Highly Significant
efficiency	.673**	0.000	Highly Significant
Result-based			
Knowledge and skills management	.675**	0.000	Highly Significant
revised	.965**	0.000	Highly Significant
efficiency	.652**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 6 displays the association between Teaching Digital Practice and Digital Media Development Management. The computed r-values indicates a strong direct correlation and the resulted p-values were less than the alpha level. Result reveals that there was significant relationship exists and implies that the better is the teaching digital practice, the better is the digital media development management. Digital practice teaching and digital media development are related to interactive digital flipped classroom teaching. Flipped classroom is to subvert the traditional teaching process of “imparting - internalizing” knowledge in the classroom, students use fragmented time to read digital teaching materials in the dormitory, at home, etc., use the network to watch micro-video, accumulate knowledge through self-study, log in the database to complete the homework, and leave the problems and difficulties to the teacher-student circle and the classroom. Students leave their problems and difficulties to teachers and students and the classroom. In the classroom, students use the knowledge gained through self-learning to give lectures and ask questions (Shen et al.,2017). MOOC, SPOC, learning apps and other tools are used to build digital learning spaces, develop project-based training resources oriented to teachers' needs, and promote the application of the latest digital technologies in teacher training (Cheng, 2024).

Today's we are in an era where art and technology are highly integrated. Science and technology drive art, and art inspires science and technology, becoming the driving force of social innovation. At present, the pace of the intelligent technology revolution is accelerating, and AIGC, machine learning, virtual digital man, expanded reality and 5G-based network services are changing people's production and life style. "Thousands of sails pass by the side of a sinking boat, and ten thousand trees spring up in front of a withered tree." Digital media is at the forefront of contemporary media, and it is also the art/technology major that is most closely connected with contemporary technology. Its professional and educational construction should abandon the old curriculum framework, enhance the relevance and practicability of the major, and promote the teaching reform through practical, cross-border and innovative professional education. This means that the better the digital teaching practice, the better the digital media development management. Li(2024).

**Table 7**

*Proposed Intensive Faculty Development Programme on Digital Teaching, Development Practices and Management*

Key Result Areas	Objectives	Strategies	Persons Responsible	Success Indicators
I.Digital Teaching Accomplishments	Enhanced understanding and expertise in digitisation.	1. Participate in at least two thematic digital workshops, seminars or conferences per year.	Teachers	No less than 70% participation
		2. subscribe to and regularly read reputable academic journals or publications in the field of digitisation		
		3. attend training on digital teaching and learning		
		1. Exchange with people from the digital industry	Teachers	No less than 70% participation
		2. use postings and other means to build a digital teacher pipeline.		
		3. participate in digital teaching competitions.		

II.Digital learning 2.1 Accuracy	Improvement of teaching practice skills	1. implement classroom digital lesson plans and use the internet for digital assessment of lessons. 2. obtain positive feedback from students and colleagues on overall classroom environment and behaviour management. 3. establish links with external experts or professionals to organise guest lectures or collaborative events in the region.	Teachers	No less than 70% participation
2.2 mass		1. use technology tools in at least 70 per cent of lessons to increase student engagement and understanding. 2. participate in technology training programmes to keep abreast of the latest digital education technologies. 3. obtaining positive feedback from students and colleagues about Effective integration of digital technologies in the learning environment.	Teachers, students	No less than 70% participation
2.3 Result-based		1. implement student engagement strategies, such as group activities and discussions, in at least 70 per cent of the courses. 2. observe increased student engagement and enthusiasm for learning. 3. collaborate with colleagues to share and adopt effective student engagement digital practices.	Teachers, students	No less than 70% participation
III.Digital management 3.1 Revised	Developing effective management practices	1. regularly reviews and updates assessments for alignment with curriculum standards and learning objectives. 2. collaborate with colleagues to cross-validate assessment alignment across departments or grade levels. 3. demonstrate improved curriculum Assessment alignment through student performance outcomes.	Teachers	No less than 70% participation
		1. use self-assessment tools in at least 50 per cent of assessments. 2. promote student reflection on their digital learning progress and goals. 3. observe an increase in the number of students Take ownership of their digital learning through improved self-assessment practices.	Teachers, students	No less than 70% participation
		1. create and implement at least one new formative digital assessment tool each semester to measure the extent to which students are managing digitally. 2. ensure that digital management is aligned with learning objectives and is unbiased. 3. receive positive feedback from students on the clarity and fairness of digital management.	Teachers, students	No less than 70% participation
Strengthening teacher development programmes in digital development	Continuing digital pedagogical development	attend at least two disciplinary or pedagogical seminars/conferences per year using digital technology. demonstrate the application of learning from the seminars attended in digital classroom practice. 3. present a talk or workshop at a local or national conference within the next two years.	Teachers	No less than 70% participation
		1. actively participate in at least one digital learning community or digital teaching group. 2. share successful digital teaching strategies and resources. 3. Lead or participate in the management of digital teaching and learning within the school.	Teachers	No less than 70% participation
		1. enroll in and successfully complete at least one advanced degree or related accredited digital programme 2. apply newly acquired knowledge and skills in a digital classroom environment. 3. share digital teaching insights and learning outcomes from advanced studies with colleagues through digital technology development Session.	Teachers	No less than 70% participation

#### 4. Conclusions and recommendations

The study of digital teaching practices and digital network media use showed a significant correlation, which means that the better the digital network development, the better the digital teaching practices. The results of the study on digital campus promotion and digital media development management show a significant correlation, which means that the better the digital campus development, the better the digital media development management. The results of the study on the professional quality and competence of teachers in terms of knowledge of modern technology, classroom management, pedagogical innovation and professional

development, and the management of digital media development show that there is a significant correlation between the two, which means that the better the teachers' overall digital quality, the better the management of digital media development. The analysis of the relationship between digital teaching, practice and management in universities in western China based on demographic variables such as age, gender, education, and years of working experience reveals that there is a strong correlation between digital teaching and digital practice and digital management. An enhanced management plan is proposed to promote the development and practice of digital campuses in western Chinese universities.

Teachers in western China's colleges and universities can be trained to improve their digital teaching skills in order to avoid bottlenecks in their professional development. The management of universities in western China could train teachers in a range of effective management mechanisms to improve their ability to align with digital practice expertise. Higher education leaders may develop policy reforms regarding employee benefits, rewards/recognition and incentive systems to ensure enthusiasm for digital education learning among teachers in higher education institutions in western China. Personnel offices of universities in western China may develop new evaluation guidelines based on digital teaching and learning to ensure a more comprehensive evaluation system when evaluating teachers' use of digital teaching and learning, and to establish a reasonable performance appraisal mechanism for teachers. In the process of promoting the construction of digital campuses, it is necessary to guarantee the basic network coverage of campuses, realise the full coverage of 5G signals, and formulate corresponding guarantee plans to ensure that teachers of universities in western China use digital campuses in the process of teaching and combining with practice. Future researchers may conduct studies on the impact of digital university development, digital university practices and digital university management system development on universities in western China. They could also identify important indicators for measuring a university's digital development, digital practices and management engagement.

## 5. References

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