International Journal of Sociologies and Anthropologies Science Reviews
Volume 4 Issue 4: July-August 2024: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

An Empirical Study of Mythware Platform on Improving Academic Performance of College Students

Qingguo Zhang
PhD Candidate, Teaching Technology, Graduate School of Business, Assumption University, Bangkok, Thailand [Postal Address: 592/3 Soi Ramkhamhaeng 24, Khwaeng Hua Mak, Khet Bang Kapi, Bangkok, 10240, Thailand
E-mail: 1262181615@qq.com, ORCID ID: https://orcid.org/0009-0006-8018-6467

Received 09/03/2024 Revised 18/03/2024 Accepted 20/04/2024

Abstract

Background and Aim: With the rapid development of science and technology, great changes are taking place in education all over the world. Digital education is a trend that is forcing the digital transformation of education in different countries, and the education sector is gradually embracing digital games, apps, websites, social media, and learning environments. The research aims to investigate the impact of integrating the Mythware system and task-based pedagogy on academic performance in new media design courses.

Materials and Methods: This quasi-experimental study aims to investigate the impact of integrating the Mythware system and task-based pedagogy in a new media design course for second and third-year students at the School of Computer at Guangdong Business and Technology University. The study includes 92 students divided into experimental and control groups, with data collected through pre and post-tests to assess academic performance. SPSS software will be used for data analysis, including an independent sample T-test to evaluate the effectiveness of the experimental intervention on student outcomes.

Results: The scores of students in the experimental group were significantly improved before and after the experiment, which proves that the Mythware platform can improve the academic performance of college students.

Conclusion: The results show that the experimental group of students before and after the experiment in the practical, spiritual, aesthetic, cultural, and innovative aspects of the assessment scores have significantly improved. The results of the T-test also confirmed that the experimental group of students in these dimensions of the post-test scores are significantly higher than the pre-test.

Keywords: Mythware System; Classroom Techniques; Task-based Pedagogy; China

Introduction

With the rapid development of science and technology, great changes are taking place in education worldwide. Digital education is a trend that is forcing the digital transformation of education in different countries, and the education sector is gradually embracing digital games, apps, websites, social media, and learning environments. The COVID-19 pandemic and measures related to social distancing and school closures around the world have accelerated this digitization process, and there is an urgent need for a rigorous, up-close examination of how this digitization is reshaping the world of education (Decuypere et al., 2021). In addition, the COVID-19 pandemic has exacerbated the situation. In recent years, digital education platforms have created a global hurricane, which has led to the growth and popularization of digital education greatly accelerated, and educational methods are in urgent need of reform to cope with this phenomenon. This requires many experts to design relevant emergency pedagogies, which often closely integrate existing traditional pedagogies with newly developed digital education platforms. (Williamson et al., 2020). In this sense, how does education take and change specialized forms of relevant academic research, the researcher's team makes a general argument that educational practice is gradually changing forms under the influence of digital platforms (e.g., (Decuypere & Vanden Broeck, 2020; Lewis, 2021).

Digital teaching is a comprehensive field. It contains analysis and research related to educational, scientific, political, and social dimensions. Over the past dozen years, the concept of teaching digital competence has undergone a typical change (Barth & Burandt, 2013). It has changed from a technical concept to a technical field. To highlight its transformative and activating value in developing students' digital skills. This new concept argues that the teaching of digital competencies must be oriented towards fostering and motivating student initiative in digital citizen building (Mâță et al., 2020). Competence in this field is not only reflected in the use of ICTs to solve problems but also in critical thinking and reflective attitudes. In short, digital teaching capabilities aim to develop citizens' conscious, active, and participatory use of e-social technologies to achieve cultural, economic, environmental, and social sustainability. Digital capabilities become empowering, transformative, and expanding skills that support building sustainable societies (Mâță et al., 2020).

On February 14, 2023, one of the parallel forums of the World Digital Education Congress, Digital Transformation and Development of Vocational Education parallel forum was held in Beijing,

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China. With the theme of Transformation and Reshaping: Digital Empowering New Ecology of Vocational Education, the forum focused on the development and application of digital resources in the field of vocational education and the improvement of digital governance capabilities. The forum was co-sponsored by the Ministry of Education of the People's Republic of China and the Chinese National Commission for UNESCO. Nearly 100,000 people from more than 60 countries and regions and more than 3,000 vocational colleges and enterprises participated in the forum online and offline. The conference further determined that countries around the world should work together to build a pattern of digital connectivity in vocational education and jointly promote the digitalization of international vocational education to a new level (Parallel Forum on 'Digital Transformation and Development of Vocational Education' - Government Portal of Ministry of Education of the People's Republic of China, 2023).

Digital technology has become an important tool for sustainable development goals and improving the quality of civic education. The goal of educational technology is to ensure that the teaching process has the required efficiency in the context of mass education and that students achieve solid learning outcomes (Narbasheva, 2021). Class technology's main task is the learning process, teachers can make progress in securing public culture and effective (Шаббазова, 2018). Due to the diversity of learning objectives, diversity of teaching content elements, and individual characteristics of students, single teaching methods often cannot reach the highest level of execution. Therefore educational technology has already become an effective means of realizing educational mission and goal.

The rapid digitization of education, accelerated by the COVID-19 pandemic, is reshaping teaching practices and emphasizing the importance of digital competencies for sustainable development and civic education, as highlighted in various academic research and international forums.

The reason for presenting this paper is to highlight the significant impact of digital transformation on education, particularly in the context of the COVID-19 pandemic, and to emphasize the importance of developing digital competencies for sustainable development and civic education. It also aims to showcase the evolving trends in educational technology research and the global efforts to promote digitalization in vocational education through international collaborations and forums.

Objectives

To explore the integration of the Mythware system and task-based pedagogy in the course in new media design.

To explore the ways Mythware system teaching improves students' academic performance.

Literature review

Information on Topic/Technology

Guided by the research idea of educational theory-educational practice-educational theory, this paper will integrate the means of information technology and use the Mythware system to improve the learning effect of teaching strategies. It is combined with the teaching practice of computer courses in vocational colleges. Firstly, the relevant literature was sorted out by consulting. Study the theory of learning effect and teaching strategy. Focus on how to integrate information technology means (Xue et al., 2020). Mythware system was used to design teaching strategies to improve learning outcomes. Then through investigation and research, the current situation and characteristics of students in higher vocational colleges are analyzed.

It illustrates the necessity of designing teaching strategies to improve the learning effect in higher vocational colleges. Finally, combined with the motivation of higher vocational undergraduate students and the characteristics of computer application basic courses (Zhuo & Qi-Xian, 2015). Design a series of fusion information technology means. Instructional strategies for improving learning outcomes using the Mythware system. Experiments were also conducted during a 6-week teaching period of a semester. In the process of the experiment, all kinds of verification and evaluation of students 'learning effects are carried out. Provide an effective practice case. Improve the teaching quality of teachers and the learning effect of students.

Information of the Population

Guangdong Business and Technology University of Industry and Commerce is a vocational undergraduate school located in Guangdong Province, China. All students come from 44 cities in Guangdong Province. Their living environment and study habits are similar. The sample population for

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this study was 105 second-year university students majoring in digital media in the School of Computer Science. According to the results of the pre-experiment test results, 92 students with scores higher than 60 points were selected from them, and they were randomly divided into class A and class B for the experiment. The age of the population sample was between 20 and 22 years. Since these students are all digital media majors, the ratio of male to female students is almost the same. Therefore, gender is not analyzed.

In this purposive sampling, student attendance grades, midterm grades, and final grades are sampled. The purpose of this sampling is to ensure that the learning initiative, grades, gender ratio, and other factors of students in the experimental class and the control class do not interfere with the experimental results. In addition to this, the environmental equipment in the experimental and control classes was also the same. The purpose is to more accurately test whether there are significant differences in practicality, spirituality, aesthetics, culture, and innovation between the control group and the experimental group.

Information on the connection between the population and topic/technology.

Students at Guangdong Business and Technology University had poor academic performance before they entered the campus. The student's learning ability is weak. However, it is the social responsibility of Chinese vocational schools to train them to become professional and technical personnel in society.

Faced with such a group of students. Vocational undergraduate computer teachers should not only teach professional knowledge, but also teach students practical operations, but also manage the order of the classroom. In a 45-minute class, teachers are under great pressure. The teacher's task is to develop students' computer application skills. Guide students to use computers correctly. Service to life and work. So that students can apply what they have learned after graduation and closely follow the trend of social development. The difference in computer level when students enter the school, the lack of learning motivation of students, and the confusion of classroom discipline make it difficult for computer teachers to ensure the quality of classroom teaching and the learning effect of students.

The researcher believes that making use of the Mythware teaching platform to develop teaching strategies to improve the learning effect in computer courses is of great importance to stimulate students' learning motivation, improve students' participation in class, maintain normal teaching order, resolve conflicts between teachers and students, and improve students' learning effect. With the help of the Mythware system, developing appropriate teaching strategies and combining students' learning mentality can optimize students' learning motivation and make students' learning easier and teachers' teaching easier.

Conceptual Framework

Researchers have proposed a variety of frameworks to guide the use of augmented reality technology. For example, Cohen et. al. (2017) propose a framework that includes eight areas to guide the use of AR in teaching, including problem identification, research planning, literature review, hypothesis development, research design, assessment procedure decisions, data collection and analysis, and outcome interpretation and reporting. In addition, Negi (2016) proposes some other frameworks, as shown in Table 1, to guide the application of AR technology. These frameworks provide a systematic approach to help teachers and researchers plan, implement, and evaluate the application of augmented reality technologies.

Table 1. Frameworks for action research

Stage	Kemmis et. al. (2014)	Sagor (1992)	Calhoun (1994)	O'Leary (2004)	Alber (2010)
	Planning	Formulating Problem	Selecting the area of focus	Observing	Noticing a problem
	Acting	Collecting data	Collecting data	Reflecting	Planning
	Observing	Analyzing data	Organizing data	Planning	Teaching/Acting
	Reflecting	Reporting results	Analyzing and interpreting data	Acting	Observing
	Re-planning	Planning action	Taking action	Observing	Reflecting

Source: Negi, (2016). Improving teaching through action research; perceptions, practices, and problems (3Ps): Voices from secondary level teachers in an EFL context. ELT Voices, 6(4), 18-30.

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Practicality refers to the quality or state of being practical, meaning that something can be done, put into practice, or done effectively within the constraints of the real world. When evaluating the feasibility of a particular idea, plan, or solution, various factors need to be considered, such as resources, time, cost, available technology, and potential obstacles. The term utility is often used in the context of decision-making, problem-solving, and project management. It is crucial to assess the feasibility of an idea or project before investing significant time, effort, and resources. The practical approach focuses on finding solutions that are realistic, achievable, and likely to succeed under current circumstances and constraints (Patent Examination Guidelines - Part 2 - Section 5 - Practicality, 2023).

The word Spirit is derived from the Latin root spiritus, which originally meant to breathe, and it joins words in other languages such as Greek psyche, Sanskrit atman, and Hebrew ruach in associating breath with life. According to the Merriam-Webster Dictionary (1974), the spirit can be interpreted as a life-giving, vibrant, and energetic force that infuses life with energy, courage, and enthusiasm.

Baumgarten, the founder of aesthetics, defined beauty as the perfection of the senses and art as the embodiment of beauty. He further subdivides the category of beauty into more specific, well-defined concepts, including mapping elements such as not just beautiful, but very beautiful, perfect and far from ugly, and the opposite of beauty. Kant emphasized the originality of aesthetic perception and described it as purposeless expediency (Afasizhev et al., 1975; Kanta, 1991). Aesthetic judgment is not interested in anything else; it has its value. In human life, the aesthetic has its special niche.

Design culture can be seen as a meaningful context that provides the basis for the conception and development of design projects. In this context, designers create new meanings, and in some cases, these meanings can have an impact on the culture in which they are located. Design culture is not only an environment but also a force that can change the world. It provides a platform for innovation and change, and by rethinking and redefining existing norms and values, design culture can trigger meaningful change. Designers, as agents of design culture, play an important role in promoting the development and evolution of design culture through their creativity and unique perspectives. At the same time, the design culture is also an open and diverse community that encourages cooperation and exchange among various players to promote innovation and common development (Julier, 2006).
Innovation is defined as any new or significantly improved good or service introduced on the market; Any new or significantly improved processes introduced by the company (DANE, 2019). It should be emphasized that this definition refers to the innovation process within a company, not the market. Innovation is the process of turning ideas into successful products, new products and services, and new business and organizational models. This is necessary to make better use of natural capital, thereby ensuring sustainable development and long-term growth.

Taking into account the teaching methods of the school, the existing teaching environment and equipment, and the learning situation of the students, the researcher will choose a quasi-experimental research method to conduct the research. This method allowed the researchers to make comparisons between the experiment and the control group, but full randomization was not possible due to certain limitations. With a quasi-experimental approach, researchers will be able to assess the impact of the experiment's interventions on student learning outcomes and provide a strong basis for improvements in teaching methods and environments. For example, as shown in Figure 1, the sample population (sophomores majoring in digital media technology) was randomly divided into two groups. Before the experiment, the academic performance (practical, spiritual, aesthetic, cultural, innovative) of the two groups of students was measured and their scores were recorded. Then the experiment began, and over 10 weeks, the experimental group of students would learn using the Mythware system and Task-based pedagogy. Students in the control group learned using only Task-based pedagogy. At the end of the experiment, the students were tested again on their academic performance (practical, spiritual, aesthetic, cultural, innovative), and their scores were recorded. Then, the influence of the Mythware system on students' achievement is analyzed through pre and post-test data. Mythware systems have been shown to improve academic performance in college students.

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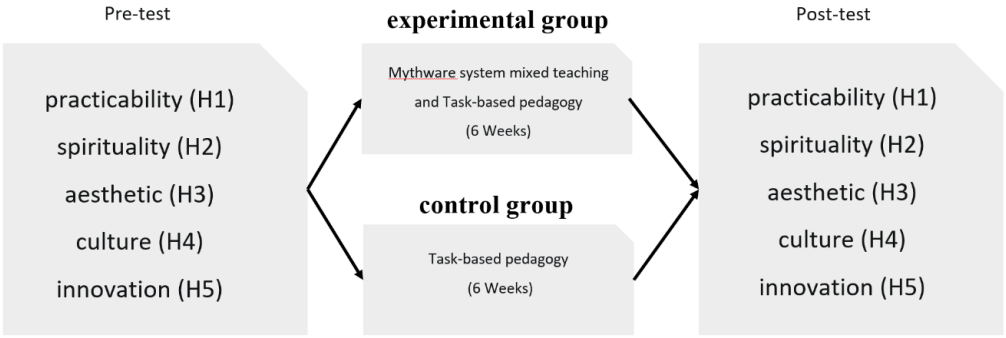

Figure 1. Research Framework (Separate groups with Control)

Grades play an important role in college education, as they are not only the result of the learning process but may also affect student motivation and performance. Getting a low score during the semester can have a positive or negative impact on students' learning. On the one hand, a low score can motivate students to work harder and invest more time and energy to improve their performance in the course. On the other hand, low grades may also make students feel frustrated and lose interest in the course, which in turn leads to further low grades. Therefore, students need to actively cope with low grades and find motivation and improvement opportunities to improve their performance levels in subsequent studies (Gray & Bunte, 2022).

The researcher analyzed the practical, spiritual, aesthetic, cultural, and innovative differences between the control group and the experimental group. It is proved that after using Task-based pedagogy and the Mythware system, all the assignments completed by students have a significant improvement in the final overall course score scoring system.

The following is the list of hypotheses and literature that supports the development of hypotheses in the study.

Methodology

Research Design

This study will use a randomized controlled trial design to assess the impact of the intervention on student academic achievement.

To be specific. The experimenters randomly divided the samples into an experimental group and a control group, ensuring that there was no significant difference in the baseline features of the two groups. It affected the experimental group, but not the control group. Both groups were given tests of academic achievement before and after the experiment. Comparing the test scores of the experimental groups before and after the test showed a distinct improvement in predictive power. The differences in test scores of the control group before and after were compared, but there was no obvious change in the prediction results. By comparing the experimental results of the experimental group and the control group, it can be predicted that the performance of the experimental group is superior to the control group. Using SPSS, the t-test of independent samples was carried out, and the experimental effect was analyzed. Randomized controlled trials can effectively evaluate the effect of intervention on academic achievement.

Research Treatment

The experiment will adopt the Task-based pedagogy method and take the new media packaging design of tourist souvenirs as the research topic. The experimental group will adopt the Mythware system teaching technology combined with the Task-based pedagogy method, while the control group will adopt the Task-based pedagogy method.

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Figure 2 shows the treatment method of this study. For the rest of the experiment, there will be four lessons each week, and the use of Mythware's technology will vary among the four lessons. Specifically, in the first lesson, the teacher will be using the Mythware system's blackboard features to explain the objectives of the lesson. In the second lesson, the teacher will use Mythware's network control function to arrange for the students to connect or not to connect. In the third lesson, the teacher will use Mythware's screen-sharing feature to display the assignment requirements. In the fourth lesson, students will use Mythware's report display to report the results of their work to the teacher. In addition, to ensure that the experimental data is not lost, there will be two teaching assistants to help record the materials during the experiment. Assistant 1 will be responsible for filming, recording, and videotaping the experiment. Assistant 2 will be responsible for recording the performance of teachers and students on-site or responding to emergencies. Teachers will be responsible for classroom interaction and guiding students in their learning.

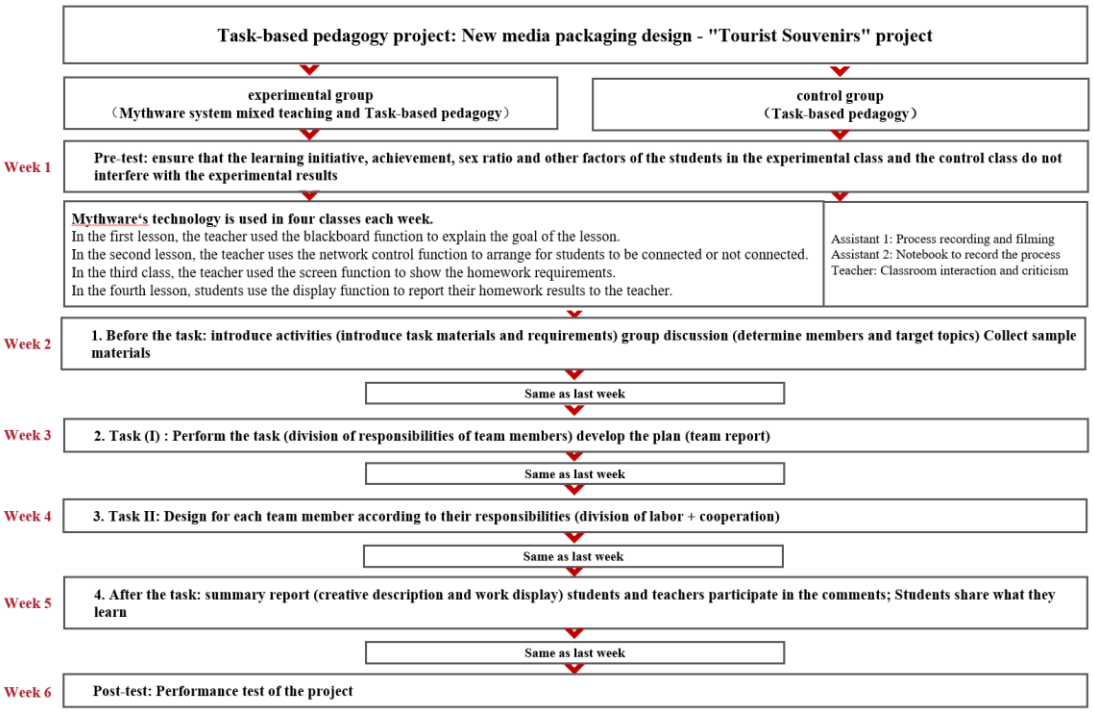

Figure 2. Research Treatment

Population and Sample

The subjects of this study are students majoring in digital media Technology in the School of Computer at Guangdong Business and Technology University. Founded in 1996, it is a full-time full-time school ratified by the Ministry of Education. In December 2018, it became one of the first 15 pilot vocational education schools at the undergraduate level in China (School Profile / Guangdong Business and Technology University, 2023). In addition, the students in this school all come from various cities in Guangdong Province, and they contain the characteristics of Guangdong students. At the same time, Guangdong Province is also an important demonstration site for China's vocational and technical universities. Therefore, the selection of students from this school as the sample of the study also has a very good reference value for the digital media majors of other schools in Guangdong.

In addition, students majoring in digital media technology will be selected as samples in this experiment, because the researcher is a teacher of this major, and the control of experimental conditions will be more convenient. It is also to make it easier for students to study this major in the future.

Students in vocational and technical universities have their characteristics and labels, their learning ability is generally weaker than that of students entering ordinary colleges and universities, and even more than half of the students have some learning disabilities. However, the samples selected for this experiment are students majoring in digital media technology, and these students are somewhat different from students of other majors. The advantage of these students is that they are very interested

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in computers, and they can consciously solve problems by learning through the Internet. They also have very strong innovative thinking, and they like to break the routine, and can quickly adapt to the new teaching methods of teachers. Compared with ordinary students, their weakness lies in their inability to continuously read the text knowledge.

Therefore, this study will select research samples from the digital media Technology major of the School of Computer at Guangdong Business and Technology University for grouping experiments. Use the Mythware system platform and staged task exercises to improve the academic performance of students in this major.

The researchers will select a sample of 105 students enrolled in the 2021-2022 school year, who are generally familiar with computers. Among them, there are 13 differentiated students. Two students had major depression, four had moderate depression, five enlisted in the army, and two retired from the volunteer force. To ensure that the results of this study have a certain reference value, 92 ordinary students were selected to participate in the experiment, the male-to-female ratio was close to 1:1, and the age was between 20 and 22 years old. Since these people are all digital media majors, this ratio is normal and in line with the gender ratio of this professional group in China.
A purposeful sampling method will be adopted in this experiment.

Due to the low enthusiasm of vocational college students, digital media students are not highly motivated except for a few students, and some classes will have a small number of special students (patients who have been confirmed as having moderate or severe depression before entering the school, students who join the army or retire in the semester). To ensure the validity of the final experimental data and prevent some students from not cooperating in the experiment, the researchers need the final grades of the previous semester and the teacher's feedback as a reference. After considering the opinions of the majority of leaders and teachers, it was decided to select the students whose final score was above 60 points from the experimental sample. The students who qualified for the experiment were divided into two parts male and female. The researchers randomly selected the students from the student number list of boys and girls respectively and divided them into Class A and Class B for pre-test and post-test.

Table 2. Number of Population and Sample Size

The number of digital media technology students enrolled in 2022	Sample Size	Scale
105	92	87.6%

Research Instruments

The test results of this study will be carried out at Guangdong Technology and Business University and extended to other vocational schools in Guangdong. On this basis, the research instrument that the researcher will use is the five-year teaching evaluation standard of Guangdong Business and Technology University.

The researchers will divide the assessment of test scores into routine performance (50%) and final performance (50%). Daily performance will record the data of students in the learning process, which can be used to judge the enthusiasm of students. Performance includes attendance scores (20%), homework (20%), and in-class tests (60%). In addition, the classroom test will be divided into two parts to test students' classroom performance (50%) and practical ability (50%). The final grade will be the test of students' comprehensive ability at the end of the course, and it is also one of the teachers' teaching achievements. The final grade consists of a theory paper (30%) and a skills paper (70%), of which the design community will highly value the skills paper. Similarly, many companies will hire graduates based on the results of the skills test papers. It directly determines whether the students can quickly complete the tasks of customers in the work, meet the needs of customers, and bring greater value to the company.

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Results

Demographic information

In this study, the experimenters collected demographic information from 105 people as a sample, two students had major depression, four had moderate depression, five enlisted in the army, and two retired from the volunteer force. To ensure that the results of this study have a certain reference value, 92 ordinary students were selected to participate in the experiment, the male-to-female ratio was close to 1:1, and the age was between 20 and 22 years old. Since these people are all digital media majors, this ratio is normal and in line with the gender ratio of this professional group in China. Below is a descriptive analysis table of all demographic data obtained from the sample.

There are 56 students aged 20, accounting for 60.9%, 8 students aged 21, accounting for 8.7%, and 28 students aged 22, accounting for 30.4%. In the experiment, there were 48 boys, accounting for 52.2% of the total number, and 44 girls, accounting for 47.8% of the total number. Of these, 60 were in the second grade, or 65.2 percent, and 32 were in the third grade, or 34.8 percent. Details are given in Table 3.

Table 3. Demographic Information of Samples

Variable	Category	Frequency	Percentage
Gender	Male	48	52.2%
	Female	44	47.8%
	Total	92	100%
Year of Study	Year 2	60	65.2%
	Year 3	32	34.8%
	Total	92	100%

Descriptive Statistics of Variables

Table 4. Reliability analysis

Variable	Cronbach's Alpha	Number of terms
Practicability	0.905	4
Spirituality	0.865	4
Aesthetic	0.884	4
Culture	0.893	4
Innovation	0.885	4
Global scale	0.863	20

The results are as in Table 4. The practicality variable consists of four items and Cronbach's alpha coefficient is 0.905. The intelligence variable consists of four items with Cronbach's alpha coefficient of 0.865. The aesthetic variable consists of four items, Cronbach's alpha coefficient of 0.884. There were four incubation parameters. Cronbach's alpha coefficient was 0.893. The innovation variable consists of four items and Cronbach's alpha coefficient is 0.885. Cronbach's alpha coefficient of 20 items was 0.863. When Cronbach's alpha coefficient is greater than 0.8, it explains that the reliability of the measurement table is high and that the measurement table has relatively high internal consistency and stability.

Table 5. KMO and Bartlett tests

Kaiser-Meyer-Olkin		0.799
Bartlett's sphericity test	Approximate chi-square	1134.613
	df	190
	Sig.	0.000

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The verification results in Table 5 show that the kMO verification value of the survey data is 0.799, which is greater than 0.70, indicating that the questionnaire is suitable for factor analysis. Bartlett's test of composition showed that the Kais product approximation was 1134.613, with a significant probability of 0.000 (P & lt;0. 01%). Therefore, Bartlett's hypothesis of the spherical test was rejected as this scale fits the factor analysis and therefore has a good validity structure.

Table 6. Total variance of interpretation

constituent	Initial eigenvalue			Extract the sum of squared loads			Rotating load sum of squares		
	Total	Percentage of variance	Cumulative percentage	Total	Percentage of variance	Cumulative percentage	Total	Percentage of variance	Cumulative percentage
1	5.665	28.326	28.326	5.665	28.326	28.326	3.145	15.726	15.726
2	3.472	17.358	45.684	3.472	17.358	45.684	3.048	15.240	30.966
3	2.407	12.033	57.717	2.407	12.033	57.717	3.033	15.167	46.133
4	2.140	10.700	68.417	2.140	10.700	68.417	3.033	15.164	61.297
5	1.485	7.426	75.843	1.485	7.426	75.843	2.909	14.546	75.843
6	0.579	2.897	78.739						
7	0.533	2.665	81.404						
8	0.495	2.473	83.877						
9	0.434	2.170	86.048						
10	0.403	2.014	88.061						
11	0.383	1.913	89.975						
12	0.353	1.763	91.737						
13	0.312	1.561	93.299						
14	0.271	1.353	94.652						
15	0.241	1.204	95.856						
16	0.204	1.019	96.875						
17	0.201	1.004	97.879						
18	0.159	0.796	98.675						
19	0.142	0.709	99.384						
20	0.123	0.616	100						

Table 6 shows the main phosphorus seats used in the factor analysis process. Through orthogonal rotation of the maximum variance, five eigenvalues obtain a common factor greater than 1. As a result, the total variance interpretation rate of the five elements was 75.843%, exceeding 60%, indicating that the validity of the quantity table was relatively good.

Table 7. Factor rotation component matrix

variable	**Measurement item**	**constituent**				
		1	**2**	**3**	**4**	**5**
Practicability	QP1	0.880	0.170	0.065	0.050	0.010
	QP2	0.867	0.060	0.085	-0.024	0.020
	QP3	0.824	-0.027	0.152	0.072	0.069
	QP4	0.909	-0.056	0.168	0.044	0.143

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International Journal of Sociologies and Anthropologies Science Reviews
Volume 4 Issue 4: July-August 2024: ISSN 2985-2730
Website: https://so07.tci-thaijo.org/index.php/IJSASR/index

variable	Measurement item	constituent				
		1	2	3	4	5
Spirituality	QS1	0.130	0.239	0.152	0.012	0.768
	QS2	0.051	0.119	0.002	0.011	0.868
	QS3	0.055	0.083	0.006	0.188	0.807
	QS4	0.004	0.102	0.194	0.038	0.844
Aesthetic	QA1	-0.032	0.274	-0.004	0.840	0.150
	QA2	0.052	0.222	0.114	0.808	0.024
	QA3	0.078	0.130	-0.026	0.822	0.049
	QA4	0.033	0.215	0.016	0.849	0.044
Culture	QC1	-0.020	0.849	0.088	0.239	0.158
	QC2	0.032	0.803	0.050	0.294	0.026
	QC3	0.059	0.825	0.140	0.180	0.183
	QC4	0.088	0.813	-0.014	0.184	0.216
Innovation	QI1	0.198	0.136	0.854	0.071	0.078
	QI2	0.067	0.018	0.863	-0.043	0.102
	QI3	0.149	0.095	0.829	-0.034	-0.013
	QI4	0.062	-0.004	0.840	0.111	0.166

Table 7 shows the rotated factor matrix. The 20 choices can be broken down into five factors, but the load for each factor is greater than 0.5 and the load for two factors is not high. In addition, the items for each axis are summarized along the theoretical distribution, which shows the high validity.

Table 8. Comparison of the difference between the control group and the experimental group before the experiment

Variable	Class	Sample size	Mean	SD	t	P	Difference of mean
Pre-Practicability	the pre-test control group	46	3.044	1.349	0.368	0.714	0.098
	the experimental group	46	2.946	1.197			
Pre-Spirituality	the pre-test control group	46	2.603	1.067	-0.309	0.758	-0.071
	the experimental group	46	2.674	1.129			
Pre-Aesthetic	the pre-test control group	46	2.467	1.238	1.155	0.251	0.304
	the experimental group	46	2.163	1.290			
Pre-Culture	the pre-test control group	46	2.592	1.365	0.378	0.706	0.109
	the experimental group	46	2.484	1.392			
Pre-Innovation	the pre-test control group	46	2.690	1.311	0.036	0.972	0.011
	the experimental group	46	2.679	1.597			
The total score of the pre-test	the pre-test control group	46	2.679	0.807	0.546	0.586	0.090
	the experimental group	46	2.589	0.777			

Table 8 shows the differences between the precontrol and experimental groups.

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From the table, the average practical value of the control group and the experimental group is 3.044 and 2.964. The results of the T-test are T=0.368. Corresponding to P=0.714 > 0.05, the experimental group and the control group had no statistical significance in the dimension of practicality before the experiment.

As you can see from the table, the average spirituality of the control and experimental classes is 2.603 and 2.674. The T-test result is T= -0.309. P=0.758 > 0.05 means that there is no statistical significance to the difference in spirituality level between the experimental group and the control group before the experiment.

Looking at this table, the average aesthetic dimension for comparison and experimental classes was 2.467 and 2.163. The results of the T-test are T=1.155. P= 0.251>0.05. The difference in aesthetic dimensions between the control group and the experimental group does not make any statistical sense before the experiment ($p < 0.05$).

The average cultural dimension of the control class and the experimental class is 2.592 and 2.484. The t-test result is T=0.378. Corresponding to P=0.706 > 0.05, the difference in Culture dimensions between the experimental group and the control group before the experiment is statistically meaningless.

From the table, the average innovation dimensions of the control class and the experimental class are 2.690 and 2.679. T test result is T=0.036. P=0.972 > 0.05, in the experimental group and the control group, there was no statistical meaning in the dimension of innovation before the experiment.

It can be seen from the table that the average point dimensions of the control class and the experimental class are 2.679 and 2.589. The t-test result is T=0.546. Corresponding to P=0.586 > 0.05, the difference in the dimension of the total points between the control group and the experimental group was not statistically significant.

Table 9. The difference between the experimental group and the control group was compared after the experiment

Variable	Class	Sample size	Mean	SD	t	P	Difference of mean
Post-Practicability	the pre-test control group	46	2.995	1.338	-2.302	0.024	-0.592
	the experimental group	46	3.587	1.121			
Post-Spirituality	the pre-test control group	46	2.804	1.362	-2.660	0.009	-0.658
	the experimental group	46	3.462	0.977			
Post-Aesthetic	the pre-test control group	46	2.261	1.375	-4.549	0.000	-1.109
	the experimental group	46	3.370	0.917			
Post-Culture	the pre-test control group	46	2.630	1.369	-2.460	0.016	-0.668
	the experimental group	46	3.299	1.233			
Post-Innovation	the pre-test control group	46	2.538	1.610	-3.550	0.001	-0.973
	the experimental group	46	3.511	0.929			
The total score of the post-test	the pre-test control group	46	2.646	0.672	-5.989	0.000	-0.800
	the experimental group	46	3.446	0.607			

Table 9 is the test of the difference between the control group and the experimental group after the experiment.

As can be seen from the table, the average practicality of the contrast and experimental classes is 2.995 and 3.587. T assay showed that T = -2.302, corresponding P =0.024 < 0.05. Therefore, there was a significant difference in the practicability of the control group and the experimental group after the end of the experiment. In the mean, the experimental group was significantly higher than the control group.

As can be seen from the table, the average intelligence of the control class and the experimental class is 2.804 and 3.462. T-test showed that T = -2.660, corresponding P =0.009 < 0.05, which explains that there is a significant difference in the intelligence of the control group and the experimental group

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after the end of the experiment. In the mean, the experimental group was significantly higher than the control group.

As can be seen from the table, the mean aesthetic dimensions for the contrast class and experimental class were 2.261 and 3.370. In the t-test results, there were T = -4.549, corresponding P = 0.000 < 0.05, there were statistical differences in aesthetic dimensions of the control group and experimental group after the experiment. In the mean, the experimental group was significantly higher than the control group.

As can be seen from the table, the mean of the control class and the experimental class culture dimension was 2.630, which was 3.299. T assay showed that T = -2.460,p =0.016 < 0.05, there was a significant difference in culture dimension between the control group and experimental group after the experiment. In the mean, the experimental group was significantly higher than the control group.

As can be seen from the table, the innovation dimension mean of the control class and the experimental class was 2.538, with 3.511. T assay showed that t =-3.550, corresponding P =0.001 < 0.05, after the experiment, there were significant differences between the control group and the experimental group in the innovation dimension as well. In the mean, the experimental group was significantly higher than the control group.

As can be seen from the table, the average number of minutes for the control and experimental classes is 2.646 and 3.446. T examination showed that T = -5.989, corresponding P = 0.000 < 0.05, the difference in total minute dimension between the control group and the experimental group after the experiment was statistically significant. In the mean, the experimental group was significantly higher than the control group.

Table 10. The control group matched the sample correlation

		Sample size	Correlation	Significance
Pair 1	Pre-Practicability & post-Practicability	46	0.422	0.004
Pair 2	Pre-Spirituality & post-Spirituality	46	0.507	0.000
Pair 3	Pre-Aesthetic & post-Aesthetic	46	0.367	0.012
Pair 4	Pre-Culture & post-Culture	46	0.502	0.000
Pair 5	Pre-Innovation & post-Innovation	46	0.427	0.003
Pair 6	The total score of the pre-test & the total score of the post-test	46	0.390	0.007

Table 10 Correlation results of paired samples show that there are significant correlations in all dimensions before and after, and the test of paired samples before and after can be conducted.

Table 11. The difference between the control group students before and after the experiment was matched

		Mean	Sample size	SD	t	P	Difference of mean
Pair 1	Pre-Practicability	3.044	46	1.349	0.230	0.819	0.049
	Post-Practicability	2.995	46	1.338			
Pair 2	Pre-Spirituality	2.603	46	1.067	-1.107	0.274	-0.201
	Post-Spirituality	2.804	46	1.362			
Pair 3	Pre-Aesthetic	2.467	46	1.238	0.950	0.347	0.207
	Post-Aesthetic	2.261	46	1.375			
Pair 4	Pre-Culture	2.592	46	1.365	-0.189	0.851	-0.038
	Post-Culture	2.630	46	1.369			
Pair 5	Pre-Innovation	2.690	46	1.311	0.651	0.518	0.152
	Post-Innovation	2.538	46	1.610			
Pair 6	The total score of the pre-test	2.679	46	0.807	0.277	0.783	0.034
	the total score of the post-test	2.646	46	0.672			

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As can be seen from Table 11, the average practicability of students in the control group before and after the experiment was 3.044 and 2.995, respectively, which was no higher than the average level before and after the inspection. The results of the paired sample test were T=0.230, P= 0.819 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment.

The average practicability of the control group before and after the experiment was 2.603 and 2.804, respectively, and there was no improvement before and after the inspection. Results of paired sample test T= -1.107, P= 0.274 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment.

The average feasibility values of the experimental group before and after the experiment were 2.467 and 2.261, respectively, and the average values before and after the experiment did not increase. Results of paired sample test, T=0.950, P= 0.347 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment.

The average practical possibility of the control group students before and after the experiment was 2.292 and 2.630, respectively, which did not improve. Results of double body sampling, T= -0.189, P= 0.851 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment.

The average practical performance of the control group before and after the experiment was 2.690 and 2.538, respectively. The results of the paired sample test were T=0.651, P= 0.518 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment. The average practical performance of the control group before and after the experiment was 2.679 and 2.646, respectively, which was no higher than the average before and after the test. Results of paired sample test, T=0.277, P= 0.783 > 0.05. Therefore, there was no significant difference in the practice of the control group before and after the experiment.

Table 12. The experimental group paired sample correlation

		Sample size	Correlation	Significance
Pair 1	Pre-Practicability & post-Practicability	46	0.717	0.000
Pair 2	Pre-Spirituality & post-Spirituality	46	0.737	0.000
Pair 3	Pre-Aesthetic & post-Aesthetic	46	0.615	0.000
Pair 4	Pre-Culture & post-Culture	46	0.598	0.000
Pair 5	Pre-Innovation & post-Innovation	46	0.701	0.000
Pair 6	The total score of the pre-test & the total score of the post-test	46	0.732	0.000

Table 12 Correlation results of paired samples show that there are significant correlations in all dimensions before and after, and the test of paired samples before and after can be conducted.

Table 13. The difference matching test of experimental group students before and after the experiment

		Mean	Sample size	SD	t	P	Difference of mean
Pair 1	Pre-Practicability	2.946	46	1.197	-4.971	0.000	-0.641
	Post-Practicability	3.587	46	1.121			
Pair 2	Pre-Spirituality	2.674	46	1.129	-6.885	0.000	-0.788
	Post-Spirituality	3.462	46	0.977			
Pair 3	Pre-Aesthetic	2.163	46	1.290	-7.983	0.000	-1.207
	Post-Aesthetic	3.370	46	0.917			
Pair 4	Pre-Culture	2.484	46	1.392	-4.666	0.000	-0.815
	Post-Culture	3.299	46	1.233			

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		Mean	Sample size	SD	t	P	Difference of mean
Pair 5	Pre-Innovation	2.679	46	1.597	-4.884	0.000	-0.832
	Post-Innovation	3.511	46	0.929			
Pair 6	The total score of the pre-test	2.589	46	0.777	-10.932	0.000	-0.857
	the total score of the post-test	3.446	46	0.607			

As can be seen from Table 4.12, the average Practicability dimension of the experimental group students before and after the experiment was 2.946 and 3.587 respectively, which showed an improvement from the mean value before and after the experiment. The results of the paired sample test showed t=-4.971, P=0.000 < 0.05. Therefore, there are significant differences in the Practicability of students in the experimental group before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

The average Spirituality of the experimental group was 2.674 and 3.462 respectively before and after the experiment. The average spirituality was improved before and after the test. The pairwise sample test showed t=-6.885, P=0.000 < 0.05. Therefore, there was a significant difference in the Spirituality of the experimental group before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

The average Aesthetic dimension of the students in the experimental group before and after the experiment was 2.163 and 3.370 respectively, and the average aesthetic dimension was improved before and after the experiment. The results of the paired sample test showed that t=-7.983, P=0.000 < 0.05. Therefore, there are significant differences in the Aesthetic dimension between the experimental group students before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

The mean values of the Culture dimension of the students in the experimental group before and after the experiment were 2.484 and 3.299 respectively, and the mean values were improved before and after the test. The paired sample test showed that t=-4.666, P=0.000 < 0.05. Therefore, it shows that there are significant differences in the Culture dimension of the experimental group students before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

The mean value of the Innovation dimension of students in the experimental group before and after the experiment was 2.679 and 3.511 respectively, and the mean value was improved before and after the experiment. The paired sample test showed that t=-4.884, P=0.000 < 0.05. Therefore, there are significant differences in the Innovation dimension of students in the experimental group before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

The dimensional mean of the total score of the students in the experimental group before and after the experiment was 2.589 and 3.446 respectively, which showed an improvement from the mean before and after the test. The paired sample test showed that t=-10.932, P=0.000 < 0.05. Therefore, there is a significant difference in the total score of the experimental group students before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

Table 14. Comparison of pre-test scores between the control group and experimental group

	Class	Sample size	Mean	SD	t	P	Difference of mean
Pre-test score	the pre-test control group	46	82.330	4.497	-0.084	0.933	-0.087
	the experimental group	46	82.410	5.357			

Table 14 shows the difference test between the control group and the experimental group. The mean value of achievement dimension in the comparison class and experimental class was 82.330; 82.410. T-test results show t=-0.084; Corresponding P=0.933 > 0.05. Therefore, there was no significant difference between the control group and the experimental group before the experiment.

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Table 15. Comparison of post-test results between the control group and the experimental group

	Class	Sample size	Mean	SD	t	P	Difference of mean
Post-test score	the pre-test control group	46	82.240	4.463	-2.862	0.005	-2.848
	the experimental group	46	85.090	5.063			

Table 15 shows the difference test between the control group and the experimental group. The mean values of the dimensions in the control class and the experimental class were 82.240; and 85.090. T-test results show t=-2.862; Corresponding P=0.005 < 0.05. Therefore, after the experiment, there is a significant difference in the adult dimension between the control group and the experimental group. According to the mean value, the experimental group is significantly higher than the control group.

Table 16. Paired sample correlation

		Sample size	Correlation	Significance
The pre-test control group	Pre-test score & Post-test score	46	0.913	0.000
The experimental group	Pre-test score & Post-test score	46	0.898	0.000

Table 16 Correlation results of paired samples show that there is a significant correlation in each dimension before and after, and the test of paired samples before and after can be conducted.

Table 17. The difference between the control group students before and after the experiment was matched

		Mean	Sample size	SD	t	P	Difference of mean
Pair 1	Pre-test score	82.33	46	4.497	0.315	0.754	0.087
	Post-test score	82.24	46	4.463			

As can be seen from Table 17, the mean scores of students in the control group before and after the experiment were 82.33 and 82.24 respectively, and there was no improvement before and after the test from the mean. The paired sample test showed that t=0.315, P=0.754 > 0.05. Therefore, there was no significant difference in the scores of the control group before and after the experiment.

Table 18. The difference matching test of experimental group students before and after the experiment

		Mean	Sample size	SD	t	P	Difference of mean
Pair 1	Pre-test score	82.41	46	5.357	-7.662	0.000	-2.674
	Post-test score	85.09	46	5.063			

As can be seen from Table 18, the mean scores of students in the experimental group before and after the experiment were 82.41 and 85.09 respectively, and the mean values showed an improvement before and after the test. The paired sample test showed t=-7.662, P=0.000 < 0.05. Therefore, there are significant differences in the scores of students in the experimental group before and after the experiment. It can be seen from the mean that the post-test score is significantly higher than that of the pre-test.

Hypotheses Testing

This part is about hypothesis testing in research. The portion and procedure of the test depend on the study design and the number of hypotheses tested. From the descriptive statistics of 4.2 variables, researchers can know the practical dimension, spiritual dimension, aesthetic dimension, and cultural dimension of students in the experimental group before and after the experiment. The mean of the innovation dimension and the mean of the total score dimension have improved. The results showed that the experimental group of students before and after the experiment had a significant improvement in all the indicators. Table 19 shows the summary of the results of the hypotheses testing in the study.

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Table 19. Summary of Hypothesis testing and results

Hypotheses	Statement	Result after Analysis
H01	There is an improvement between the control group and experimental group for practicability in the posttest.	Have a significant effect
H02	There is an improvement between the control group and experimental group for spirituality in the posttest.	Have a significant effect
H03	There is an improvement between the control group and experimental group for aesthetics in the posttest.	Have a significant effect
H04	There is an improvement between the control group and experimental group for culture in the posttest.	Have a significant effect
H05	There is an improvement between the control group and experimental group for innovation in the posttest.	Have a significant effect

Discussion

A possible limitation of this study is the relatively limited sample size. Limited to certain classes in one school, it is difficult to scale up to the wider population, and representation needs to be further validated. There may be other uncontrolled variables, such as differences in teacher quality.

To further improve the quality and universality of the research, researchers can expand the sample size and carry out the research with multi-center cooperation. A qualitative study was added to the study to explore the intervention mechanism in depth. Control the influence of more variables to improve internal and external validity.

In summary, this study provides preliminary evidence, but it needs to be further improved in terms of representativeness and validity.

Add more the discussion

In addition to the limitations mentioned, it is crucial to consider the broader implications of the findings and discuss the potential impact of these limitations on the overall validity and generalizability of the study. One important aspect to discuss could be the transferability of the results to other educational settings or contexts. It would be valuable to explore how the findings of the study could be applied or adapted in different schools, regions, or countries.

Furthermore, discussing the implications of the uncontrolled variables, such as differences in teacher quality, on the study outcomes is essential. Addressing how these variables may have influenced the results and considering strategies to mitigate their impact in future research would strengthen the study's credibility.

Moreover, reflecting on the implications of expanding the sample size and conducting multi-center cooperation could provide insights into the potential benefits and challenges of such an approach. Discussing how these changes could enhance the study's reliability and applicability to a wider population would be valuable for future research endeavors.

Overall, a robust discussion that delves into the limitations of the study, potential avenues for improvement, and the broader implications of the findings would enrich the research and contribute to a more comprehensive understanding of the impact of digital transformation on education.

Conclusion

This study investigated and analyzed the academic development of the experimental group of students in digital media technology courses. A thorough study of demographic information, descriptive statistics of variables, reliability and validity analysis, data analysis and results, and hypothesis testing led to the following conclusions.

The experimental group showed significant improvement in Practicability, Spirituality, Aesthetics, Culture, Innovation, and total score before and after the experiment. The pairwise sample test results showed that there were significant differences in these dimensions before and after the

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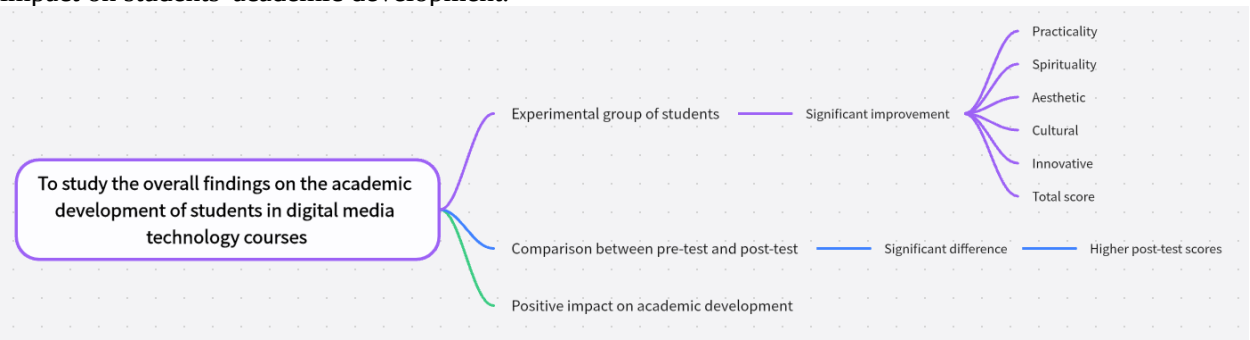
experiment, and the score in the post-test was significantly higher than that in the pre-test. This shows that the experiment has a positive impact on students' academic development.

This mind map presents the overall findings of research on the academic development of students in digital media technology courses. First, the study involved the academic development of students in the experimental group in multiple dimensions, including practicality, spirituality, aesthetics, culture, innovation, and overall score. A thorough study of demographic information, descriptive statistics of variables, reliability and validity analysis, data analysis and results, and hypothesis testing led to the following conclusions.

Before and after the experiment, the experimental group showed significant improvements in practical, spiritual, aesthetic, cultural, innovative, and overall scores. The pairwise sample test results showed significant differences in these dimensions before and after the experiment, and the post-test scores were significantly higher than the pre-test scores. This shows that the experiment has a positive impact on students' academic development.



Recommendation

These results provide important guidance for the teaching practice of digital media technology and also provide a useful reference for future research. In further research, the specific reasons and mechanisms behind the experiments can be explored, as well as how these findings can be translated into more specific teaching practices and curriculum design.

References

Afasizhev, M.N., Jestetika, K., & Afasizhev, M.H. (1975). *Aesthetics Kant.* Retrieved from: https://www.biblio.com/book/afasizhev-mn-jestetika-kanta-afasizhev-mh/d/1322013666

Alber, S. M. (2010). A Toolkit for Action Research. *In Rowman & Littlefield Publishers, Inc*. Rowman & Littlefield Publishers, Inc.

Barth, M., & Burandt, S. (2013). Adding the "e-" to Learning for Sustainable Development: Challenges and Innovation. *Sustainability*, *5*(6), 2609–2622. https://doi.org/10.3390/su5062609

Calhoun, E.F. (1994). *How To Use Action Research in the Self-Renewing School*. Association for Supervision and Curriculum Development, 1250 N.

Cohen, L., Manion, L., & Morrison, K. (2017). *Research Methods in Education*. Retrieved from: https://sc.panda321.com/extdomains/books.google.com/books/about/Research_Methods_in_Education.html?hl=zh-CN&id=9mYPEAAAQBAJ

DANE. (2019). *Boletín técnico Encuesta de desarrollo e innovación tecnológica (EDIT) Industria manufacturera 2017-2018*. Retrieved from: https://www.dane.gov.co/index.php/estadisticas-por-tema/tecnologia-e-innovacion/encuesta-de-desarrollo-e-innovacion-tecnologica-edit/informacion-historica-edit

Decuypere, M., & Vanden Broeck, P. (2020). Time and educational (re-)forms—Inquiring the temporal dimension of education. *Educational Philosophy and Theory*, *52*(6), 602–612. https://doi.org/10.1080/00131857.2020.1716449

Citation
Zhang, Q. (2024). An Empirical Study of Mythware Platform on Improving Academic Performance of College Students. International Journal of Sociologies and Anthropologies Science Reviews, 4 (4), 453-470; DOI: https://doi.org/10.60027/ijsasr.2024.4452

Decuypere, M., Grimaldi, E., & Landri, P. (2021). Introduction: Critical studies of digital education platforms. *Critical Studies in Education*, *62*(1), 1–16. https://doi.org/10.1080/17508487.2020.1866050

Gray, T., & Bunte, J. (2022). The Effect of Grades on Student Performance: Evidence from a Quasi-Experiment. *College Teaching*, *70*(1), 15–28. https://doi.org/10.1080/87567555.2020.1865865

Julier, G. (2006). From Visual Culture to Design Culture. *Design Issues*, *22*(1), 64–76.

Kanta, J.I. (1991). *Jestetika Immanuila Kanta i sovremennost'.* Retrieved from: https://baike.baidu.com/item/伊曼努尔·康德/2631177?fromModule=lemma_search-box&fromid=5618&fromtitle=康德.

Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The Action Research Planner: Doing Critical Participatory Action Research.* Springer Singapore. https://doi.org/10.1007/978-981-4560-67-2

Lewis, S. (2021). The turn towards policy mobilities and the theoretical-methodological implications for policy sociology. *Critical Studies in Education*, *62*(3), 322–337. https://doi.org/10.1080/17508487.2020.1808499

Mâță, L., Clipa, O., & Tzafilkou, K. (2020). The development and validation of a scale to measure university teachers' attitudes towards the ethical use of information technology for a sustainable education. *Sustainability*, *12*(15), 6268.

Merriam-Webster Dictionary. (1974). *New York: Pocket Books*. New York: Pocket Books. http://www.etsy.com/market/pocket_books_new_york

Narbasheva, M.A. (2021). The importance of pedagogical and psychological literacy of parents in preparing children for school education. *AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL*, *11*(1), 728–732. https://doi.org/10.5958/2249-7137.2021.00099.9

Negi, J.S. (2016). Improving Teaching through Action Research; Perceptions, Practices, and Problems (3Ps): Voices from Secondary Level Teachers in an EFL Context. ELT Voices. *ELT Voices-International Journal for Teachers of English*. Retrieved from: https://www.academia.edu/43513896/Improving_Teaching_through_Action_Research_Perceptions_Practices_and_Problems_3Ps_Voices_from_Sec_ondary_Level_Teachers_in_an_EFL_Context_ELT_Voices

O'Leary, Z. (2004). *The Essential Guide to Doing Research*. Retrieved from: https://sc.panda321.com/extdomains/books.google.com/books/about/The_Essential_Guide_to_Doing_Research.html?hl=zh-CN&id=D1ZWS2Wnk2QC

Parallel forum on 'Digital Transformation and Development of Vocational Education'—Government portal of Ministry of Education of the People's Republic of China. (2023, February 14). Retrieved from: http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2023/2023_zt01/yw/202302/t20230214_1044721.html

Patent Examination Guidelines. (2023). *Part 2—Section 5—Practicality*. Retrieved from: http://www.cypatent.com/cn/sczn2-5.htm

Sagor, R. (1992). *How To Conduct Collaborative Action Research.* Association for Supervision and Curriculum Development, 1250 N.

School Profile. (2023). *Guangdong Business and Technology University*. Retrieved from: http://www.gdbtu.edu.cn/contents/257/34.html

Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies, and practices: Digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, *45*(2), 107–114. https://doi.org/10.1080/17439884.2020.1761641

Xue, Y., Gu, C., Wu, J., Dai, D.Y., Mu, X., & Zhou, Z. (2020). The Effects of Extrinsic Motivation on Scientific and Artistic Creativity among Middle School Students. *The Journal of Creative Behavior*, *54*(1), 37–50. https://doi.org/10.1002/jocb.239

Zhuo, L., & Qi-Xian, G. (2015). The Application of Hybrid Flipped Classroom in the Course of Java Programming. *2015 7th International Conference on Information Technology in Medicine and Education (ITME)*, 637–641. https://doi.org/10.1109/ITME.2015.95

Шаббазова, Д. Р. (2018). ВОСПИТАНИЕ ТРУДОВОЙ АКТИВНОСТИ ПРИУЧЕНИЕ К ТВОРЧЕСТВУ. *Гуманитарный Трактат, 25*, 99–102.

Citation
Zhang, Q. (2024). An Empirical Study of Mythware Platform on Improving Academic Performance of College Students. International Journal of Sociologies and Anthropologies Science Reviews, 4 (4), 453-470; DOI: https://doi.org/10.60027/ijsasr.2024.4452