



## Analysis of the Influence of Computer-Aided Digital Resources on Teaching Effect

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**Abstract.** This study takes the use of digital teaching resources by teachers in a county junior high school in Longshan County, Hunan Province as the subject of the research, adopts constructivism, humanistic theory, and collaborative learning theory as the theoretical basis, and adopts literature analysis, case study method, questionnaire interview method, and classroom observation method. The research approach was based on the "current situation survey-problem, identification-problem analysis, and suggestion", and the current situation and problems of using digital resources in junior high schools were used as the background to explore the impact of the results. The results of the questionnaires and tests were statistically analyzed by combining the questionnaire survey method. The classroom observation method was used to select two similar classes and to control for other variables to conduct comparative observations.

**Keywords:** Digital teaching resources, middle school teaching, Computer-aided system.

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### 1 INTRODUCTION

In the 21st century, the world has entered the information revolution from the industrial revolution and is gradually entering the era of intelligence. Digital information has become an important skill that the current generation must master. Zeng Ming, a member of the American Education and Education Technology Committee, pointed out that, the ability quality of the 21st century should include basic learning skills, information literacy, innovative thinking ability, interpersonal communication and cooperation spirit, and practical ability. It can be seen that information ability

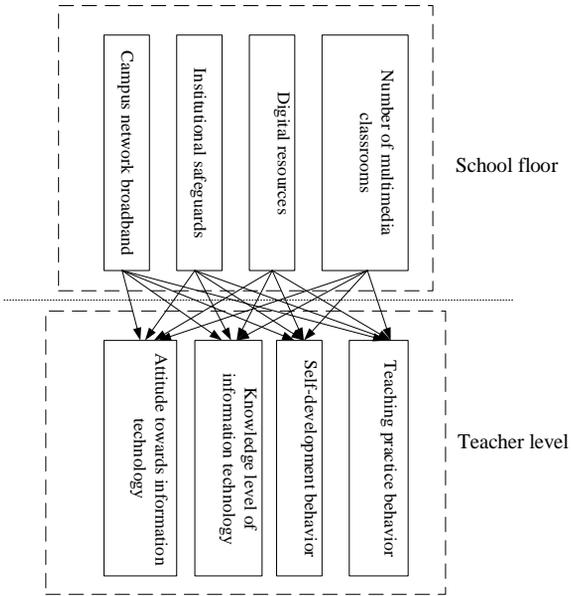
has become an internationally recognized important ability. In our country, digital information sources are introduced into the classroom, to popularize information and knowledge, improve the information literacy of teachers and students, and lay a solid foundation for future students to integrate into society. Our country has a large population, and the difference between the rich and the poor in different regions leads to the uneven development of education levels. Many schools are unable to introduce high-quality teachers and advanced teaching and education equipment due to a lack of funds. Yang et al. [1] examined two unique examples of large-scale educational applications that demonstrate the high potential of computer-supported collaborative teaching and learning models from an equity perspective. Akhtar et al. [2] presented the utilization of a purpose-built computer-supported cooperative learning landscape intended to support lab-based CAD education by monitoring student engagement and identifying predictors of achievement. Li [3] developed an English language acquisition system over an improved fuzzy-aided high-level network of neural connections system. Ng and Chan [4] introduced two learning tasks that integrate "making" and 3D computer-aided design in elementary and middle school, respectively, to promote technology, mathematics, science, engineering, and learning in the mathematics classroom. An emerging trend in many learning environments, blended learning uses a deliberate integration of traditional in-person and online instruction to create an engaging learning environment for learners [5]. Alnajjar and Brick [6] examined the perceptions of five serving teachers about the technical and didactic availability of number swatch cards in Teaching English as a Foreign Language. Cantoni et al. [7] described an empirical learning approach applied to a university computer engineering course, from which students participated in the realization of a digital humanities project, namely a 3D modeling. A ridiculous environment-based methodology to teach basic coding concepts is more efficacious and motivating when visual and kinesthetic learning styles are taken into account [8]. Willermark and Pareto [9] explored the underlying reasons why this shift occurs by revealing both why boundaries work in computer-supported collaborative teaching and learning and learning and stimulating a shift to digital teaching and learning practices. The development status of the digital teaching model in China's universities and the analysis of the research results of professionals on computer teaching in the new era; finally, the knowledge of data mining is explained [10].

Under such circumstances, it is more necessary to popularize digital resources in classroom teaching and education. The technology of digital capital source bearing equipment has been mature before, so it can spend less money, that is, it can make full use of the digital capital source. In addition, the online and sharing nature of digital resources enables teachers and students' students to share the vast variety and quantity of teaching and education resources on the Internet, which greatly reduces the cost of paper documents. Today, for example, the teaching videos of many famous school teachers in China can also be opened to the public free of charge. Teachers and students have been able to break through the local restrictions and enjoy the convenience of the whole online digital resources, which is significant to promoting the fairness of teaching and education and saving the resources of teaching and education. For middle school students, as an important educational object of the country, the research of information-based education is very important.

## **2 INFLUENCING FACTORS USED IN DIGITIZED TEACHING RESOURCES**

Mobile learning has a great resonance in the whole society, especially in colleges and universities, and has moved Learning began to be researched and developed by American universities. At present, more and more education and institutions to study it. MIT OLPC project, its purpose the standard is to expand the types and quantity of learning resources that can be searched, and the world is poor. There are many children in poor areas, and the educational conditions are very backward. The mobile learning platform can to provide a relatively good learning environment. Related universities in Italy also study the main goal of mobile learning platform is to use the advanced information Internet. Develop related learning software and terminal APP for technology mobile learning. Online learning framework, etc. The mobile learning project of African savannah

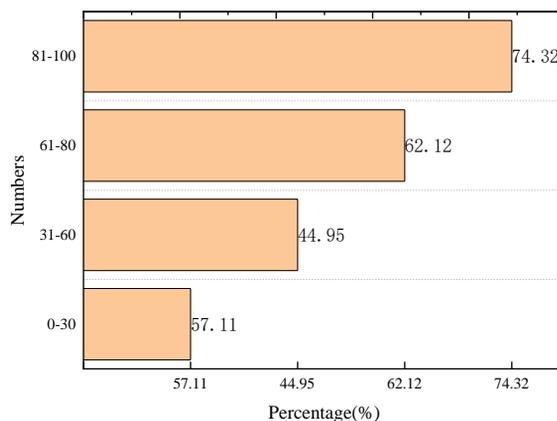
in the UK, use information technology and high-end mobile technology (terminal APP) to enrich outward bound. The unknown learning field of learners. Some European countries have jointly researched and developed a project called the "Multimedia Broadcasting System" mobile learning platform learners can benefit as long as they register. Use others' Weibo, talk, etc. published above to learn, Nording, UK. Figure 1 shows the requirements of mobile for schools and teachers. The "My Art Space" application platform developed by Han University also has the above class. Similar function. Although the theory of mobile learning in China started late, it still has some influence. Force. For example, the multimedia mobile teaching system developed by Nanjing University and the government department The mobile education platform based on wireless technology is researched with China Mobile. Group business, the first normal university professor Fang research based on students' actual learning. According to the development of mobile learning and research "handheld learning" and mobile terminal App developed by Professor Jiang of China Normal University.



**Figure 1:** Requirements of digital teaching for educators.

Figure 2 shows the use of mobile learning resources in classrooms of different ages. The video learning system is used in teaching. The mobile terminal App is on ipad. As well as the use of electronic products such as the iPhone, to a great extent, it helps students learn, and makes full use of learning resources, which are all teaching. The development of education provides great convenience. Network course teaching resources refer to digital processing, which can be used in multimedia programs. Multimedia teaching materials running in computer and network environments. According to the presentation of information Now, it can be divided into digital text, graphic images, animation, sound and numbers. Audio and digital video, according to the source of digital teaching resources, can be It is divided into specially designed resources and available resources. The so-called specially designed information Source refers to digital teaching resources specially prepared for teaching purposes, such as teaching. Software (teaching software in a broad sense); The so-called available resources refer to the original resources. Digitization that is not specially designed for teaching, but can be found to serve teaching. Teaching resources, especially various online information resources transmitted online, Including: e-books, e-journals, online

databases, virtual libraries, Encyclopedia, educational website, communication news group, virtual software library, MOOC, micro-course, WeChat official account, Weibo, etc.

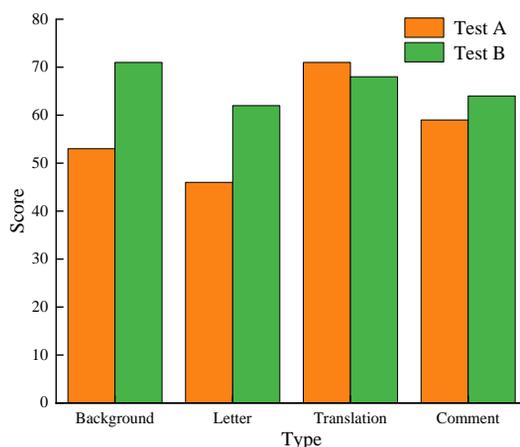


**Figure 2:** Proportion of multimedia classrooms used.

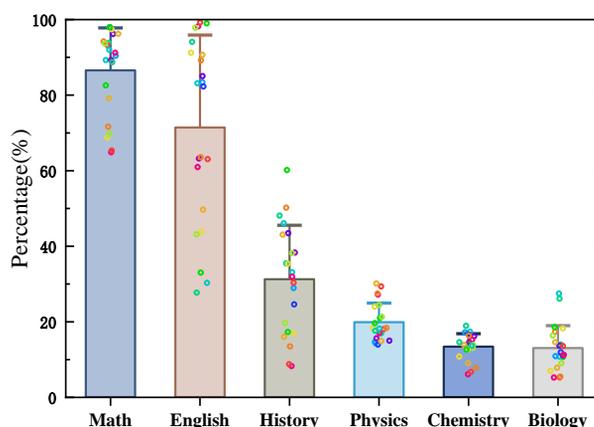
### 3 THE NEGATIVE INFLUENCE OF TEACHING

In the 21st century, the world has entered the information revolution from the industrial revolution and is gradually entering the era of intelligence. Digital information has become an important skill that the current generation must master. Zeng Ming, a member of the American Education and Education Technology Committee, pointed out that, the ability should include innovative thinking ability, information literacy, practical ability and cooperation spirit. Information ability has become an internationally recognized important ability. In our country, digital information sources are introduced into the classroom, to popularize information and knowledge, improve the information literacy of teachers, and lay a foundation for future students to integrate into society. Figure 3 shows the scores of the classes participating in the experiment. Our country has a large population, and the difference between the rich and the poor in different regions leads to the uneven development of education levels. Many schools are unable to introduce high-quality teachers and advanced teaching and education equipment due to a lack of funds. Under such circumstances, it is more necessary to popularize digital resources in classroom teaching and education.

The technology of digital capital source bearing equipment has been mature before, so it can spend less money, that is, it can make full use of the digital capital source. In addition, the online and sharing nature of digital resources enables teachers and students' share the vast variety and quantity of teaching and education resources on the Internet, which reduces paper documents. The influence of digital teaching on different subjects is shown in Figure 4. Today, for example, the teaching videos of many famous school teachers in China can also be opened to the public free of charge. Teachers and students have been able to break through the local restrictions and enjoy the convenience of the whole online digital resources, which is significant to promoting the fairness of education and saving the resources of teaching and education. For middle school students, as an important educational object of the country, the research of information-based education is very important.



**Figure 3:** Comparison of average scores of classroom observation tests.



**Figure 4:** The Influence of Digital Teaching on Different Subjects.

#### 4 SHARING DIGITAL RESOURCES

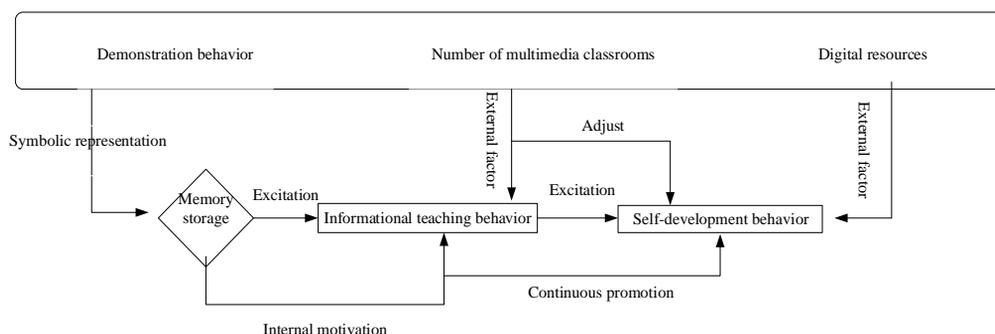
The developed industry is reflected in the rapid iteration of information technology update, based on big the marketing methods and marketing models of data analysis are constantly innovating, so learning content development has become the most challenging task, curriculum connotation and extension. Whether the definition is reasonable or not is to adapt to the secondary vocational study and the connection between secondary and higher vocational education. The key to education. Gradient construction of curriculum resource content can be resource sharing. The school provides more teaching choices to achieve the goal of hierarchical teaching. Construction of all resources Organizing learning content by task guidance should not only consider the universality of the content, it is also necessary to introduce the latest practical technology in the industry to learn and supplement, forming a larger than the "teaching library" of the course itself provides sufficient support for teachers to organize teaching. For example, in the course construction of "Network Marketing Practice", we have developed a course that includes

understanding network marketing. And promotion, Taobao promotion, website promotion and whole network marketing. Among them Knowledge of network marketing and promotion is the introductory foundation of network marketing practice the content should include the characteristics of online consumption behavior, the basic principles of online marketing promotion, Classification of network marketing terms and tools, network marketing promotion The format and content of the scheme and the steps of network marketing planning are applicable to all secondary vocational schools. School professional teaching. Taobao promotion, website promotion and whole network marketing are three parts. A total of 26 commonly used online marketing tools are introduced, including the latest mobile marketing methods and combination skills, this part of the content is greater than the actual. Teaching needs, formed a network marketing tool library, supporting the provision of network reality. The way to share resources is shown in Figure 5.

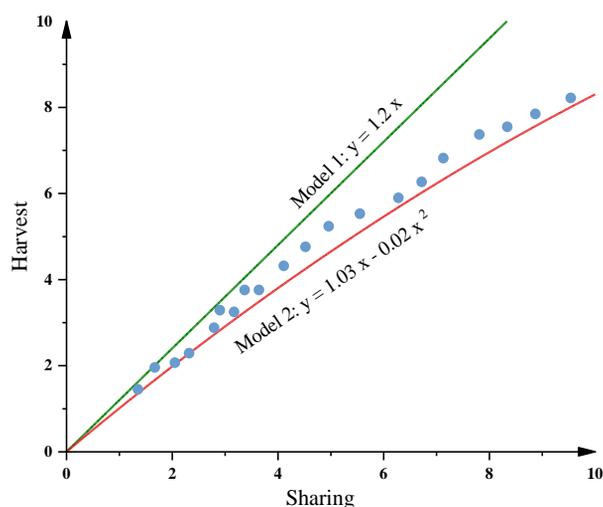
The relationship between harvest degree and sharing degree is shown in Figure 6. For projects and tasks, each school can network according to the actual needs of the school. Course content reorganization, using distance learning platform to disassemble knowledge points and construct flexibly. Our own network marketing course. Resource development is student-centered and task-oriented. To provide guidance, clear working standards, applicable fields of various marketing tools and Case analysis, fully meet the needs of teachers' lesson preparation and students' online learning. Organizational changes, teachers' teaching design ideas have undergone fundamental changes to Students' autonomous learning is the center to promote students' individualized development and improve their learning. Efficiency as the goal, the existing digital curriculum resources and the Internet public Resources are flexibly combined and interspersed in every link of information-based teaching, Teachers are not only designers and organizers of classroom participatory learning, but also It is the provider and server of online learning resources. In recent years, China's E-commerce Operation Competition covers shop decoration, Operation, customer service and other three key tasks, for students' art design, Marketing, soft writing, sales skills and customer service, etc. Line assessment. Behind it, it shows that the demand for e-commerce talents in the future is more emphasized. Field, comprehensive quality and skills; In addition, the general ability of employees is more What enterprises value, such as individual learning ability, information organization ability and teamwork. Ability, ability to resist pressure, sense of responsibility, etc., all of which should be cultivated. Computer is integrated into the information teaching design and practice teaching. Ask teachers to be kind. Organize a team to conduct online learning and share experiences and achievements in time; use the online platform provides learning support and encourages students to explore and solve practical problems; Give full learning and testing in network resource learning, Shorten the learning cycle of knowledge, and gradually form it in the process of completing the training task of resource pool. Work ideas, accumulate work experience, and help students gain professional confidence and success. Feeling; Use mobile terminals to organize extracurricular micro-lessons and establish the professional micro-lessons. Discussion groups enhance the interaction between teachers, and teachers share learning essentials in advance. Point, video resources, organize reverse classroom, improve learning efficiency, and give play to interconnection. The advantage of online aid can fundamentally change students' study habits.

## **5 SUGGESTIONS ON TEACHING RESOURCES BY USING NUMBERS**

Through the analysis of utilization of digitization of teaching resources, the usage impact of digital teaching resources on classroom teaching, and its negative effects, we can deeply recognize the basic situation of digital teaching in No. 2 Middle School of Longshan County, Hunan Province. Given its existing problems, the research results of using digital teaching resources to improve classroom efficiency and puts forward some suggestions for teachers in No. 2 Middle School of Longshan County to use digital teaching resources to improve teaching effect. There are the following main points: firstly, we should expand the sources of digital teaching and learning resources, and make good use of rich and high-quality digital teaching and learning resources to give lectures, to less work, better results.

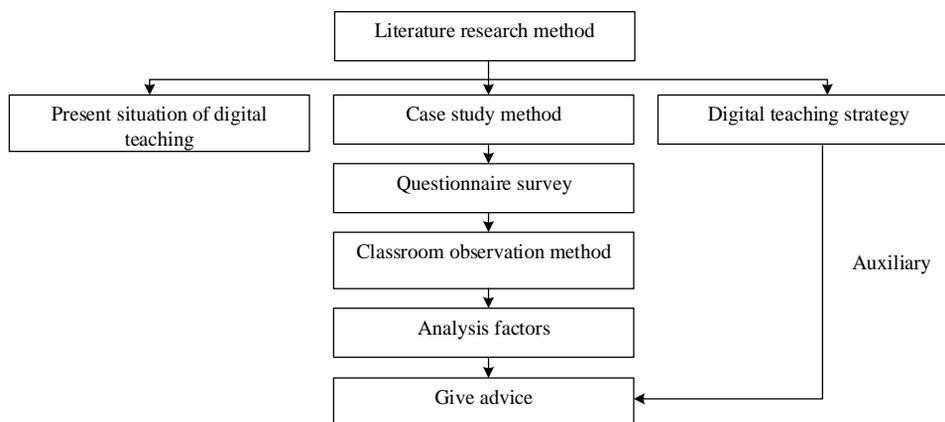


**Figure 5:** Method for share digital resources.



**Figure 6:** Level of harvesting and sharing.

Secondly, we should improve the technical level of teachers' self-confidence, so that we can make use of digital teaching resources. Then, the school needs to establish a sharing mechanism of digital resources, to avoid the shortage of resources or the situation that teachers can't do anything when they are in urgent need of resources; Teachers should change the traditional teaching thinking, learn the connotation of information-based teaching, and strengthen the utilization rate of resources; Meanwhile, establishing the shared computer system, the school should also establish a certain updating mechanism to avoid the old and wrong knowledge; Schools also need to strengthen the construction of information facilities, increase the number of electronic classrooms, and try to meet teachers' information teaching requirements. Figure 7 shows the technical circuit diagram of digital teaching. Finally, the school should encourage teachers to do their best to develop their digital teaching resources. Only the self-made East and West can have the most pertinence, and the self-made East and West can make the best use of the advantages of the materials.



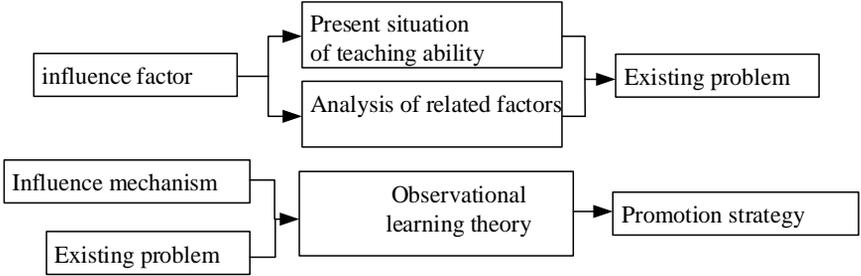
**Figure 7:** Technology roadmap.

Teaching and learning resources are the foundation of high-quality information-based teaching, and only the correct teaching materials can bring high-quality classroom services to students. Teachers of No.2 Middle School in Longshan County, Hunan Province often use the method of asking for information from other teachers and downloading relevant materials online. However, the resources obtained in this way are generally difficult to guarantee quality and quantity. At the same time, they are poorly targeted for teachers, and their contents are generally old. Therefore, given this situation, it is suggested that teachers pay more attention to online platforms that can provide digital teaching and learning resources, especially paid platforms. This kind of platform will have a certain screening mechanism and updating mechanism, and it will have a certain barrier to the content of teaching materials. Secondly, teachers can participate in online forums, discussion groups, etc. In these forums and discussion groups, teachers often share excellent digital teaching resources, and at the same time, experienced teachers will explain multimedia teaching skills in discussion groups or forums. The research path is shown in Figure 8. Finally, teachers can learn the characteristics of digital teaching resources and the characteristics of other teachers' lectures by paying attention to the micro-lesson network stations in A Shang. No matter what method is adopted, teachers need to constantly expand their sources of materials, and choose to use high-quality teaching resources as much as possible for classroom teaching. When choosing materials, we should have rich and varied forms of expression, instead of using a large number of words with one taste. The school's digital facilities are poor, and it is difficult for teachers to obtain the support of resources; Teachers' teaching thinking is old, and they have not yet understood the connotation of information-based teaching; Digital sources, without any pertinence; Digital resources are not updated, and old ones are reused. In the research process of this paper, there are still many shortcomings due to limited conditions, such as the single choice of experimental school, insufficient amount of research data, and insufficient digital resources. In future research, we can choose several schools as research objects for comparison, to expand the amount of data and research environment.

## 6 CONCLUSION

The use of digital media resources is a long-term teaching work, Coordination, planning and consideration of comprehensive interests are essential, through the creation and use of Digital teaching resources to promote the modernization of school education. Satisfy teachers' teaching the demand for resources, to improve the teaching quality and meet the students' demand for

teaching resources, in an effort to improve learning outcomes, teachers and students will have the same demand for teaching resources.



**Figure 8:** Research thought map.

Unity of teaching purpose and process. At the same time, we should deepen the teaching route and strengthen the logarithm. Word resources construction and application of leadership, solving practical issues in teaching, plus strengthen the operation and maintenance of the network and IT learning environment to ensure proper functioning of the network. It may be carried out in stages according to the needs of teaching reform and promoting modern teaching. Construction of digital resources. In the implementation, we must emphasize the requirements of teaching function, from Practice, strengthen planning and demonstration, pay attention to the structure of supporting equipment and facilities, with Take into account the requirements of management and maintenance. Design must give full consideration to all kinds of design for maintenance and management requirements. On the other hand, each unit is relatively independent. For maintenance. Colleges and universities should focus on building a computerized learning environment. Further expand students' online environment, improve students' online environment, and Provide students with a comfortable internet for self-study. Improve the development environment and establish a relatively centralized and well-equipped development and production center to meet the development of the whole school. Need. Set up 3-5 high-quality recording and broadcasting rooms in each campus to Meet the needs of course recording. Build an online learning application platform. party face, integrate the existing teaching platform, and perform its teaching functions. On the other hand, the root according to the teaching requirements, establish a teaching platform to meet the needs of large-scale applications.

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