Study on the Impact of Information Technology on Chinese Language Teaching

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ABSTRACT

With the rapid development of information technology, its application in the field of education is becoming more and more widespread, especially in Chinese language teaching. The purpose of this paper is to explore the impact of information technology on Chinese language teaching and learning, and to analyse the current status of its application in terms of teaching mode, teaching resources, and teachers' roles, as well as the impact of these applications on teaching effectiveness and learners' development. The paper finds that the application of information technology can enhance teaching effectiveness, meet learners' individual needs, and promote educational equity and universality. However, it also faces challenges such as uneven development of technology, cyber security, and allocation of educational resources. Therefore, this paper proposes corresponding coping strategies, including strengthening teachers' IT training, optimising education management policies, and reforming the education evaluation system. The concluding section summarises the positive changes brought by information technology to Chinese language teaching and points out the important directions for future research and development.

KEYWORDS

Information Technology; Chinese Language Teaching; Teaching Mode; Teaching Resources; Teachers' Roles.

1. INTRODUCTION

With the rapid development of information technology, its application in the field of education is becoming more and more extensive, especially playing an important role in language teaching. Under the background of globalisation, Chinese language teaching has become an important means to promote Chinese culture and facilitate international exchange. However, the traditional mode of Chinese language teaching has certain limitations in terms of teaching methods, teaching resources and teachers' abilities. Therefore, it is of great significance to study the impact of information technology on Chinese language teaching to promote the reform and development of Chinese language teaching. The purpose of this thesis is to discuss the impact of information technology on Chinese language teaching and the challenges it faces, and to put forward corresponding coping strategies.
2. THE IMPACT OF INFORMATION TECHNOLOGY ON CHINESE LANGUAGE TEACHING

2.1. Enhancement of Teaching Effect

2.1.1. Enhancement of Learning Interest and Motivation

The application of information technology in Chinese language teaching provides learners with a more vivid and interesting learning experience, which effectively enhances learning interest and motivation. Firstly, the introduction of multimedia teaching resources, such as video, audio and animation, makes Chinese language teaching more visual and intuitive. These resources show the linguistic phenomena of Chinese in a rich form, allowing learners to feel the charm of Chinese in a relaxed and pleasant atmosphere. Secondly, interactive teaching supported by information technology, such as online discussion and group cooperation, enables learners to participate more actively in teaching activities. They can deepen their understanding and application of Chinese knowledge through communication, sharing and cooperation. In addition, the design of personalised learning paths enables learners to learn in a targeted way according to their own needs and progress. They can access rich learning resources through the Internet at a time that suits them and achieve independent learning. These factors work together to make it easier for learners to generate learning interest and improve learning motivation with the assistance of information technology [1].

2.1.2. Learning Efficiency and Quality Improvement

The application of information technology in Chinese language teaching greatly improves the learning efficiency and quality. First of all, information technology provides Chinese language teaching with rich teaching resources and diverse teaching means. Through the network platform and digital teaching materials, teachers and students can obtain a huge amount of language learning materials, including text, audio, video and other forms, which makes the teaching content more rich and vivid. Meanwhile, the application of information technology also makes the teaching methods more flexible and diversified. Teachers can design personalised teaching activities, such as online discussion and virtual reality teaching, according to the needs and characteristics of students, so as to stimulate students' interest in learning and improve learning efficiency.

Secondly, information technology also provides a convenient interactive and communication platform, which makes the communication between teachers and students and between students more convenient and efficient. Through online chat tools, forums, social networks, etc., teachers can answer students' questions and provide timely feedback and guidance at any time. Students can also discuss and communicate with each other, share learning experiences and resources, and form a good learning community. Such interactions and exchanges not only improve learning efficiency, but also help to develop students' co-operation and social skills.

In addition, information technology provides intelligent learning tools and assessment methods for Chinese language teaching. Through language learning software and APPs, students can learn independently and practice all aspects of listening, speaking, reading and writing according to their own pace and needs. At the same time, these software also provide intelligent assessment systems that can monitor and evaluate students' learning in real time and give them personalised feedback and suggestions. Such intelligent learning tools and assessment methods not only improve learning efficiency, but also help students to self-reflect and adjust their learning strategies, thus improving the quality of learning [2].

To sum up, the application of information technology in Chinese language teaching greatly improves learning efficiency and quality through rich teaching resources, diverse teaching tools, convenient interactive and communication platforms, and intelligent learning tools and assessment methods. Teachers should make full use of information technology to provide students with more efficient and high-quality teaching services and to promote students' all-round development.
2.1.3. Comprehensive Development of Language Ability

Information technology has a profound impact on Chinese language teaching, especially in the comprehensive development of language ability. Firstly, the application of information technology provides Chinese language teaching with rich teaching resources and diversified teaching means, enabling students to have access to a wider range of more authentic learning materials in the process of language learning, thus improving the quality of students’ language input and language perception ability. Secondly, IT-supported Chinese language teaching can effectively promote students’ language output and language use. For example, through online discussions and writing platforms, students can practise and use Chinese language in a real language environment and improve their language expression and communication skills. In addition, information technology also provides students with personalised learning paths and opportunities for independent learning, so that students can choose learning contents and carry out targeted language practice according to their own learning progress and interests, thus promoting the personalised development of students and the overall enhancement of their language proficiency. In general, the application of information technology makes Chinese language teaching more vivid and interesting, more able to meet students' learning needs and effectively improve their language proficiency.

2.2. Personalised Development of Learners

2.2.1. Differentiated Satisfaction of Learning Needs

Differentiated satisfaction of learning needs is one of the important aspects of the influence of information technology on Chinese language teaching. Each learner has different learning backgrounds, interests, motivations and learning styles, so there are differences in their needs for Chinese language teaching. In traditional teaching, it is often difficult for teachers to fully satisfy the individual needs of each student, while the application of information technology provides a possibility to solve this problem.

First of all, information technology provides rich personalised learning resources for Chinese language teaching. Through the Internet and digital platforms, learners can choose suitable learning contents, such as online courses, learning software, multimedia resources, etc., according to their needs and interests. These resources not only provide learning materials with different levels of difficulty, but also provide diversified learning styles, such as listening, speaking, reading and writing, which enable learners to choose appropriate learning contents according to their strengths and weaknesses [3].

Secondly, IT-supported Chinese language teaching can achieve personalised learning path design. Learners can make personalised learning plans according to their own learning progress and abilities, while teachers can adjust their teaching strategies according to students' learning situation and needs. Through data analysis and intelligent recommendation systems, the teaching platform can provide students with personalised learning advice and counselling to help them reach their learning goals more effectively.

In addition, IT facilitates interaction and collaborative learning among learners. Tools such as online forums, videoconferencing and social networks provide a platform for students to communicate and collaborate, enabling learners to interact and discuss with peers from different backgrounds. Such interaction not only enhances learners' motivation and interest in learning, but also promotes the development of their language proficiency and social skills.

In summary, the application of information technology enables Chinese language teaching to better meet learners' individual needs. Through rich learning resources and personalised learning path design, learners are able to choose their learning content and pace more independently and develop their language ability better. At the same time, the application of information technology also promotes interaction and co-operative learning among learners, and enhances the social and
interesting nature of learning. Therefore, meeting learners' individual needs is one of the important factors for the positive impact of IT on Chinese language teaching [4].

2.2.2. Individualised Design of Learning Paths

The application of information technology in Chinese language teaching provides the possibility of personalised design of learning paths. Traditional Chinese language teaching often adopts uniform teaching materials and teaching plans, which can hardly meet the learning needs of different students. However, with the rapid development of information technology, teachers can tailor-make personalised learning paths for students according to their individual differences and learning progress.

First of all, teachers can understand students' learning habits, interests and weaknesses through data analysis, so as to design learning plans that meet their needs. For example, for students with strong motivation and faster learning progress, teachers can provide more in-depth and challenging teaching content; while for students with weak learning foundations, teachers can focus on strengthening the teaching of basic knowledge and give them more practice and counselling.

Secondly, information technology provides a wealth of learning resources and tools that allow students to learn at their own pace and interest. Students can choose the content and form of learning independently through online platforms, learning software and other tools. In this way, students are no longer passive recipients of knowledge, but active participants in exploration and learning, which helps to increase their interest and motivation in learning.

In addition, the application of information technology also breaks the time and space limitations of the traditional classroom, making it possible for students to learn Chinese anytime and anywhere. For students who are in different regions and have different work and living arrangements, this flexibility is very important. They can reasonably arrange their study time according to their time and energy, so as to better balance the relationship between learning and work and life [5].

In conclusion, the application of information technology in Chinese language teaching makes the personalised design of learning paths possible. This personalised design can not only meet students' individual learning needs and improve learning effects, but also stimulate students' interest and motivation in learning and promote their overall development. Therefore, Chinese language teaching in the future should make full use of information technology to continuously optimise the design of learning paths, so as to improve the quality of teaching and learners' satisfaction.

2.3. Educational Equity and Universalisation

2.3.1. Optimisation of Resource Allocation

In the field of education, the optimisation of resource allocation is a long-standing problem. Especially in the field of language teaching, the adequacy or otherwise of resources directly affects the quality of teaching and the learning experience of students. The introduction of information technology provides new possibilities for optimising resource allocation.

Firstly, information technology can realise resource sharing. In traditional teaching, the distribution of resources is often limited by geographical, economic and time constraints. However, with the help of information technology, resources can be shared across these limitations. For example, excellent digital teaching materials and online resources can be used by students and teachers across the country and even around the world. In this way, the gap between resource-rich and resource-poor regions can be narrowed, leading to the optimisation of resource distribution [6].

Second, information technology can help match resources precisely. The learning needs and learning styles of each student are unique, and the resources in traditional teaching are often fixed and cannot meet the needs of each student. However, with the help of information technology, we can understand the needs of each student through data analysis and learning behaviour analysis, and provide
personalized resources according to these needs. In this way, each student can obtain resources that suit him or her, thus enhancing learning.

Finally, information technology can improve the efficiency of resource utilisation. In traditional teaching, teachers often need a lot of time and energy for lesson preparation, teaching and assessment. However, with the help of information technology, these tasks can become more efficient. For example, teachers can use teaching software to mark assignments and tests automatically, thus saving more time for instructional design and student counselling. In this way, the same resources can serve more students, thus improving the efficiency of resource utilisation.

To sum up, the introduction of information technology can optimise the allocation of resources, improve the efficiency of resource utilisation, meet the individual needs of students, and thus improve the quality of teaching and learning [7].

2.3.2. Equalisation of Learning Opportunities

The application of information technology in Chinese language teaching has opened up new possibilities for the equalisation of learning opportunities. In the past, there were obvious gaps in learning opportunities between different learners due to geographical, economic and resource constraints. However, the popularisation and development of information technology has broken down these constraints, enabling quality educational resources to cross the boundaries of time and space and benefit more learners.

First of all, information technology provides learners with more convenient ways of learning. Through the network platform, learners can access rich learning resources anytime and anywhere, and are no longer restricted by geography and time. Whether urban or rural, rich or poor, as long as there is an Internet connection, learners can enjoy the same learning opportunities.

Secondly, information technology promotes the realisation of personalised learning. While traditional teaching models often find it difficult to meet the individual needs of each learner, information technology can provide learners with customised learning plans and resources according to their interests, abilities and learning progress. This personalised learning approach helps to enhance learners' motivation and learning effectiveness, further narrowing the gap in learning opportunities [8].

In addition, information technology facilitates the realisation of educational equity. In the past teaching mode, high-quality educational resources are often concentrated in cities and developed regions, while learners in rural and less developed regions often find it difficult to enjoy these resources. However, through the application of information technology, high-quality educational resources can be shared, enabling learners in rural and less-developed areas to have access to advanced educational concepts and teaching methods.

However, there are still a number of challenges to achieving full equalisation of learning opportunities. Firstly, there are disparities in the level of access to and development of information technology between different regions, which has led to the creation of a digital divide. Some regions and learners may not be able to enjoy the convenience of IT for economic and technical reasons. Secondly, although IT provides abundant learning resources, how to ensure the effective use and quality assurance of these resources is also an issue that needs to be addressed. In addition, with the application of information technology in education, a series of new issues of educational ethics and educational equity have been brought up, such as network security and privacy protection.

In summary, the application of information technology in Chinese language teaching provides new opportunities and possibilities for equalising learning opportunities. Through the promotion of information technology, we can gradually narrow the gap of learning opportunities and achieve the goal of educational equity. However, to achieve this goal, it is necessary for the government, educational institutions, teachers and learners to work together to solve the related problems and
challenges, and to utilise the potential of information technology to provide equal learning opportunities for every learner [9].

3. CHALLENGES AND COPING STRATEGIES

3.1. Challenges at the Technological Level

3.1.1. Uneven Development of Information Technology

The uneven development of information technology has had a certain impact on Chinese language teaching. First of all, in China, there is a large gap in the level of IT development between urban and rural areas, and between developed and less developed areas. This gap has led to an uneven distribution of resources for Chinese language teaching, with schools in urban and developed areas able to enjoy more advanced IT resources and equipment, while schools in rural and less developed areas often lack the necessary hardware facilities and software resources. This has led to marked differences in the opportunities and quality of Chinese language education for students in different regions.

Second, family economic conditions also have an impact on the application of IT in Chinese language teaching. Students with better family economic conditions can buy more language learning software and APPs, participate in online teaching and blended teaching, and thus improve their learning effect. On the other hand, students from less well-off families may not be able to enjoy these resources, leading to limitations in their Chinese language learning.

In addition, the IT literacy of teachers is also an issue that cannot be ignored. Due to the long-standing urban-rural and regional disparities in China, some teachers have certain difficulties in the application of information technology. This not only affects the reform and innovation of teaching methods, but also may lead to teachers' fear and resistance to the application of information technology in the teaching process [10].

In order to solve the impact of unbalanced development of information technology on Chinese language teaching, the government and relevant departments need to increase the investment in educational resources in rural and less developed areas and improve the level of information technology in these areas. At the same time, IT training for teachers should be strengthened to improve their information literacy and technology application ability. In addition, enterprises and social forces should be encouraged to participate in the development and promotion of Chinese language teaching resources, so as to improve the level of educational equity and popularisation.

3.1.2. Network Security and Privacy Protection

With the rapid development of information technology, network security and privacy protection have become the focus of social concern. In the field of Chinese language teaching, the issues of network security and privacy protection should not be neglected. On the one hand, Chinese language teaching in the network environment needs to collect and use a lot of learners' personal information, such as name, student number, learning habits and so on. The security and privacy protection of such personal information is crucial for learners. Once personal information is leaked, it may lead to the violation of learners' privacy and even cause a series of network security problems.

On the other hand, teaching resources and data involved in the process of Chinese language teaching also need to be effectively protected by network security. The security of teaching resources is directly related to the normal conduct of teaching activities, and once the teaching resources are attacked, it may lead to the interruption of teaching and affect the quality of teaching. At the same time, network security problems may also have an impact on the online platform for Chinese language teaching, leading to unavailability of platform services and affecting learners' learning experience [11].
In order to cope with the challenges of network security and privacy protection, the following measures should be taken: firstly, strengthen the education of network security awareness, improve teachers' and learners' understanding of network security and privacy protection, and avoid security risks due to improper operation. Second, establish a sound network security protection system, and conduct regular security checks and maintenance of the teaching platform to ensure the smooth running of teaching activities. In addition, learners' personal information should be protected in strict accordance with relevant laws and regulations and should not be leaked at will. At the same time, it is also necessary to strengthen the monitoring of network security events and emergency response capabilities, once a network security incident occurs, it can take timely measures to respond.

In conclusion, network security and privacy protection is one of the important challenges facing the field of Chinese language teaching. Only by recognising the seriousness of this problem and taking effective measures to strengthen network security and privacy protection can we ensure the smooth progress of Chinese language teaching and promote the development of the application of information technology in Chinese language teaching.

3.2. Challenges at the Level of Education Management and Policies

3.2.1. Rational Allocation of Educational Resources

Rational allocation of educational resources is the key to achieving educational equity and improving educational quality. In China, the allocation of educational resources has been facing the problem of imbalance between urban and rural areas, regions and schools. On the one hand, schools in urban and developed areas have more quality resources, such as advanced teaching equipment, excellent teachers, rich teaching content, etc. On the other hand, schools in rural and less developed areas face problems of insufficient resources, outdated facilities and lack of teachers. This unbalanced allocation of resources has led to the phenomenon of polarised education, affecting the equity and universality of education.

To address this problem, our Government has adopted a series of measures. First, it has optimized the layout of schools, adapted to demographic changes and the new urbanization process, rationally allocated educational resources in urban and rural areas, and improved the conditions and capacity of rural boarding schools and weak schools in towns. Second, sustained efforts have been made to strengthen and improve the conditions and capacity of weak schools in the central and western regions, promote the growth of new high-quality schools through the construction of new high-quality schools, the expansion of enrolment, and group-running of schools, enhance the quality of weak schools, and push forward the high-quality and balanced development of compulsory education and the integration of urban and rural areas. Third, we will enhance the expansion and quality of the teaching force, improve the political, social and professional status of teachers, attract outstanding talents to teach, and cultivate good teachers with sentiments, standards and temperaments. Lastly, strengthening family, school and community co-operation in educating people, giving full play to the roles of the family and society, and jointly creating a favourable atmosphere for family education and parenting.

In addition, the allocation of educational resources can be further optimised in the following ways. One is to increase financial input, favouring rural and less developed areas and raising the level of provision of educational resources in these areas. The second is to promote the informatisation of education, making use of information technology means to achieve the sharing of high-quality educational resources and to narrow the gap between urban and rural areas and between regions. Third, implementing a teacher rotation system to promote the mobility of outstanding teachers, so that quality education resources can be more fully utilised. Fourthly, encouraging social forces to participate in education, enriching the sources of educational resources and improving the quality of education through school-enterprise co-operation and donations to schools.

All in all, the rational allocation of educational resources is a long-term and systematic project that requires the joint efforts of the Government, society, schools and families. By continuously
optimising the allocation of resources, we are expected to achieve fairness and universality in education and contribute to the development of education and cultivation of talents in China.

3.2.2. Reform of Education Evaluation System

The education evaluation system is an important part of the education system, which is of great significance in guiding and adjusting teaching activities and ensuring the realisation of education goals. In today's rapid development of information technology, the traditional education evaluation system based on examination results can no longer fully reflect the learning status of students, nor can it meet the needs of personalised and diversified education. Therefore, reforming the education evaluation system has become an inevitable trend [12].

First of all, the evaluation system needs to change from a single test score to a comprehensive quality evaluation. The development of information technology enables us to collect students' learning data in many ways, such as online learning behaviour, classroom interaction, teamwork ability, etc., which can reflect students' learning status more comprehensively.

Secondly, the evaluation system needs to change from outcome evaluation to process evaluation. Traditional evaluation methods tend to focus on results and ignore students' efforts and progress in the learning process. Information technology provides us with a wealth of tools and methods, enabling us to monitor and evaluate students' learning process in real time, and better stimulate students' interest and motivation in learning.

Again, the evaluation system needs to pay more attention to personalised evaluation. Each student's learning characteristics and needs are different, so the evaluation system should be able to be adjusted according to the individual differences of students to meet the evaluation needs of different students. The development of information technology enables us to better understand the learning characteristics and needs of students, so as to provide more personalised assessment services.

Finally, the evaluation system needs to pay more attention to developmental and formative evaluation. Educational evaluation is not only a test of students' learning results, but more importantly, it is to provide guidance and feedback on students' learning process and help them develop better. Therefore, the evaluation system should focus on the sustainable development of students and the cultivation of their comprehensive quality and innovation ability.

In summary, the rapid development of information technology has put forward new requirements and challenges to the education evaluation system. We need to reform the existing education evaluation system to make it more fair, reasonable and scientific, and better promote the overall development of students [13].

3.3. Coping Strategies at Teacher and Student Levels

3.3.1. IT Training and Support for Teachers

Teachers' IT training and support are crucial to the application of IT in Chinese language teaching. First of all, teachers need to have certain IT application skills in order to effectively use IT in teaching. Therefore, schools and education departments should invest more in teachers' IT training and provide regular training programmes and practical activities to help teachers acquire the necessary IT knowledge and skills.

The training should cover the basics of IT, the development and utilisation of teaching resources, the use of online teaching platforms, the use of multimedia teaching tools, and so on. Through training, teachers can have a better understanding of the advantages and characteristics of information technology, learn to use information technology to carry out various teaching activities and improve teaching effectiveness.
In addition, schools and education departments should encourage teachers to participate in IT-related academic exchanges and research activities, and promote experience sharing and co-operation among teachers. In this way, teachers can constantly update their teaching concepts, grasp the latest developments in educational technology and improve their professionalism.

At the same time, schools and education departments should provide teachers with adequate technical support and services. This includes ensuring the stable operation of the campus network, providing the necessary multimedia teaching equipment and software, as well as setting up a specialised technical support team to solve the problems encountered by teachers in the process of applying IT.

In short, by strengthening teachers' IT training and support, teachers' IT application ability can be improved, and the effective use of IT in Chinese language teaching can be promoted, thus improving the quality of teaching and cultivating students' comprehensive quality.

3.3.2. Students' Independent Learning and Ability Cultivation

Under the IT environment, students' learning methods have undergone significant changes. Autonomous learning, as an important way of learning, has been widely noticed and promoted. Autonomous learning refers to the process in which learners take the initiative to choose learning contents, methods and learning paths according to their own needs, interests and abilities in the learning process, and realise their learning goals through self-regulation and self-reflection.

The rapid development of information technology provides rich resources and convenient platforms for students' independent learning. Students can access a variety of learning resources through the network, such as online courses, e-books, learning software, etc. These resources are rich and diverse and can meet the learning needs of different students. At the same time, information technology provides students with convenient learning tools, such as search engines, online translation, voice recognition, etc. These tools can help students quickly access information and improve learning efficiency.

In addition, information technology provides students with more learning opportunities and communication platforms. Students can communicate and co-operate with learners from all over the world through the Internet and share learning experiences and resources, which can broaden their horizons and improve their language application skills. At the same time, students can participate in a variety of online discussions and project research through the Internet, exercising their critical thinking and innovation skills.

However, students' self-directed learning also faces some challenges. Firstly, the complexity and information overload of the online environment may lead to the loss of students' learning goals and the decline of learning effectiveness. Second, students' self-discipline and self-regulation are key to independent learning, but some students may lack these abilities, leading to low learning efficiency. Finally, the roles and responsibilities of teachers in the process of students' independent learning need to be repositioned. Teachers need to change from traditional knowledge transmitters to mentors and supporters of learners.

Therefore, in the information environment, students' independent learning and ability development need the joint efforts of teachers, students and schools. Teachers need to guide students to use information technology correctly and develop their information literacy and independent learning ability. Students need to learn self-management, plan their study time and tasks rationally, and improve their learning efficiency. Schools need to provide a good network environment and resource support, and establish a scientific evaluation system to motivate students' independent learning. Only in this way can students realise real independent learning in the IT environment and improve their comprehensive quality and ability.
4. CONCLUSION

In today's rapid development of information technology, Chinese language teaching has also been greatly affected and changed. In this study, the impact of information technology in Chinese language teaching and the challenges it faces are discussed in depth.

Firstly, the impact of information technology on Chinese language teaching is mainly reflected in the enhancement of teaching effectiveness, the personalised development of learners, and the fairness and popularity of education. The application of information technology improves the efficiency and quality of learning, enhances the interest and motivation of learners, and develops their language proficiency in a comprehensive way. At the same time, learners' individual needs are better met and learning paths are more personalised. In addition, the development of information technology is also conducive to optimising the distribution of resources, realising the equalisation of learning opportunities, and promoting the fairness and universality of education.

Secondly, in the process of applying information technology to Chinese language teaching, there are also some challenges. For example, issues such as uneven development, network security and privacy protection at the technical level, as well as rational allocation of educational resources and reform of the educational evaluation system at the level of educational management and policy. In addition, teachers and students need to continuously adjust their teaching and learning strategies in the context of the continuous development of information technology.

To sum up, information technology has had a profound impact on Chinese language teaching and learning, providing new development opportunities as well as bringing many challenges. In the face of these challenges, we need to deal with them at multiple levels, such as technology, management and policy, in order to give full play to the positive role of information technology in Chinese language teaching and to promote the sustainable development of Chinese language teaching.

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