THE PATH AND METHOD OF DEEP INTEGRATION OF INFORMATION TECHNOLOGY AND TEACHING

Guangchu Yu[1], Lui Laibing[2]
[1,2]Graduate School, Southeast Asia University, Bangkok, Thailand
E-mail: S6446B10019@live.sau.ac.th

Abstract

The 21st century, an era of rapid development of information technology, has changed people's lives and, at the same time, has injected new vitality into education and teaching. At present, with the rapid development of information technology, the infrastructure construction, popularization and application of information technology in China's education have basically been solved. After the popularisation of IT applications, research hotspots in the field of education have focused on the integration of IT and teaching. Since then, in the Ten-Year Development Plan for Informatization (2011-2020), China has changed the reference to the integration of information technology and teaching to "deep integration", so that in the era of Informatization 2.0, the deep integration of information technology and teaching has become a hot spot for research. With the development of the times, traditional teaching methods have gradually revealed their own shortcomings, and with the new round of curriculum reform, the integration of information technology and teaching will become even closer, therefore, the deep integration of information technology and teaching has important research significance.

Keywords: information technology; secondary education; deep integration

Introduction

Using research methods such as literature, questionnaires and interviews, the thesis analyses the paths of deep integration of traditional and modern information technology with teaching in the context of modern education at home and abroad through systematic analysis and research based on the understanding of the concept of deep integration of information technology and teaching, and the current situation of teaching in the context of modern education at home and abroad by combining traditional and existing information technology teaching methods. Through case studies at home and abroad, new paths and methods for the deep integration of information technology construction and teaching are explored. The deep integration of information technology and teaching is an important aspect of the work of information technology in school education. The current situation of information technology application in secondary schools is not optimistic, and there is not enough integration of information technology teaching in China, such as virtual reality. Some of the secondary colleges and universities have the problem of insufficient teaching resources. Hardware construction is in the leading position in the construction of secondary colleges and universities,

which leads to insufficient software and low utilization rate. At this stage, most of the secondary colleges have good hardware facilities, but now these facilities are not better used and their utilization rate is not high, making most of the resources get wasted. Therefore, the study starts from the actual classroom teaching, using questionnaires, interviews and observations to investigate the current situation of deep integration, analyse its current problems, find out the reasons and put forward corresponding improvement countermeasures, in order to help teachers implement the deep integration of information technology and teaching, so as to improve the quality and effectiveness of teaching and make the course better implemented. At the same time, it is hoped that students will have a better experience in the course, improve their cultural literacy, and help to promote the teaching reform of China's secondary school curriculum.

Theories and Literature Reviews

2.1 Current problems facing the deep integration of information technology and teaching

With the continuous development of information technology, scholars unanimously agree that the deep integration of information technology and teaching is the general trend, but how to achieve the deep integration of information technology and education, there is relatively little discussion on its realization mode and path selection. Based on this starting point and combined with the characteristics of the big data era, this paper will explore the mode and path that can achieve the deep integration of information technology and teaching. The nature of deep integration of IT and teaching, The so-called deep integration of information technology and teaching, that is, the rational and scientific application of information technology to teaching, so that information technology and teaching content, curriculum resources and implementation of the integration, so that to a certain extent to better complete the teaching objectives, optimize classroom efficiency, improve the quality of student learning, and promote the overall development of students.

Major issues affecting the deep integration of IT and classroom teaching

1. There is a misunderstanding of the ideological perspective - integration for integration's sake In many classes, we actually see some in order to use information technology and information technology with information technology instead of forming a cumbersome link, for example, some mathematics classes will deliberately be able to directly complete some of the manual drawing analysis, etc. can be made into a video, in the video to explain, actually think about this process in the classroom with the teacher's operation to explain the real completion of perhaps more intuitive and easier to understand, the relevant The videos can actually be placed in teaching resources for some students with limited learning levels to review in class rather than in class. The deification of information technology, the integration of information technology as a fashion, the use of information technology in all lessons, and the failure to realise the practical significance of integration from an ideological point of view, only

formal and superficial integration, purely for the sake of integration, is reflected in the adverse consequences of teaching, so that classroom learning stays at the level of sensory and intuitive learning, weakening the training of students' level of abstract thinking, reducing the intrinsic quality of student learning. The quality of the students' learning is inherent, and the teaching effect is not achieved as it should be.

2. There are some mistakes in the actual operation - using IT for the sake of using IT

Many people see integration as an effective tool for modern teaching and learning or a more effective way of learning about IT, i.e. the focus is on the presentation and learning of IT, rather than on the effective integration of IT into the teaching of subjects to support learning. In detail, many people think that as long as they use multimedia in the classroom or use courseware with video, they are practising integration. Have you ever thought about the problems of overtime and information bombardment and poor human-computer relations in this kind of learning? In addition, if children are provided with lots of videos and materials in the classroom for students to learn on their own without proper guidance, the use of information technology is at best an overload of resources for students without really teaching them how to look at the materials and how to think about solving the problems they encounter. We can use information technology to give students some resources that can bring some ease of operation and make some changes to the way students learn, but information technology is at best only a tool and not the whole story.

3. To explore the paths and methods of deep integration with teaching in the context of modern information technology at home and abroad.

The aim of the deep integration of information technology and teaching is to change the structure of teaching through the application of information technology, so that students become the main body of teaching. With the support of IT teaching resources, students' self-learning is no longer difficult and they can conduct efficient independent learning and realise the construction of knowledge through independent inquiry. The following conditions need to be met in order to achieve the deep integration of information technology and subject teaching: firstly, an information-based teaching environment must be created, which is the basic premise for the deep integration of information technology and subject teaching; secondly, information-based teaching resources must be developed and used to assist teaching; thirdly, in the information-based teaching environment, information-based teaching resources must be applied rationally with the correct educational concept, and the teaching mode must be changed to achieve Thirdly, under the information-based teaching environment, we should use the correct educational concept to reasonably apply information-based teaching resources, change the teaching mode and realise a "student-led and teacher-led" teaching structure, so as to ultimately achieve the purpose of cultivating students' core literacy.

The most common information technology teaching environment at present is the smart classroom. Based on IT hardware and software resources, the smart classroom can well support independent, collaborative, and inquiry-based learning. Compared to traditional teaching environments, it focuses more on student learning and can well realise interactive and personalised teaching.

4. The current state of teaching in the context of modern education at home and abroad.

The United States, for example, is one of the most developed countries in the world, and its information-based education and teaching is also second to none in the world, and has been leading other countries in information-based education and teaching.

In 2005, the US government promulgated an information technology education plan. Compared with the previous education plan, the new plan focuses more on the status of students, puts students at the centre and relies on information technology to work together with students to acquire knowledge and skills, etc., providing the conditions and foundation for students to carry out information technology learning and digital learning.

In recent years, the Chinese government has attached more and more importance to information technology teaching, and information technology training for key teachers has become more and more frequent, which has made information technology-assisted teaching a norm, and the integration of information technology and teaching has led to better improvement in the quality of teaching in many schools. However, there are still many problems with the integration of IT and teaching in China, such as the lack of IT application skills of professional teachers and students, and the uneven distribution of IT resources in different regions, etc. These problems need to be solved.

Results

The purpose of the integration of information technology and curriculum is to use good information technology to change the way of teaching and learning, improve the quality of teaching and learning, and promote teaching and learning equity. Information technology in education is also a long-term process of exploration and practice. For the above problems, I think we should have some thoughts and think about the corresponding solutions.

1、Mindfulness and perspective should be changed

Information technology and curriculum integration is not simply the use of information technology to introduce modern teaching methods into teaching can be, the key is to have the guidance of modern educational philosophy, information technology to solve educational problems to achieve the universal tool of education information technology, for our teachers first of all, we must change their own views, establish a modern educational philosophy. Constructivist theory emphasises learning as the main focus, students acquire knowledge through independent learning, so for our own education status quo, we have been emphasising the return of the classroom to the students, and the actual for a simple slogan, we need to do a

lot indeed, from the concept of we only become the guide of education rather than the master, from the actual operation, we need to do a good job related to teaching design better In practical terms, we need to do a better job of teaching and learning to guide students to acquire knowledge rather than simply provide it.

2、The actual operation needs more attention

The integration of information technology and academic subjects is not only to use information technology as a tool to assist teaching or learning, but also to emphasise the use of information technology to create a new type of teaching environment, so as to achieve a teaching and learning style characterised by "autonomy, inquiry and cooperation" that can both play a leading role for teachers and fully reflect the main position of students, thus making The traditional teacher-centred classroom teaching structure has undergone fundamental changes, so that the cultivation of students' innovative spirit and practical level can really be put into practice. In the actual integration, we should use the teaching design theory of "learning and teaching together" to implement teaching design, and then combine the characteristics of each corresponding subject to construct a new teaching model that is diverse, practical and effective, and easy to realise the integration of the subject curriculum.

In recent years, more experts and scholars have conducted a lot of research on the application and integration of information technology and teaching, but relatively few have studied the deep integration of information technology and teaching (especially specialized subjects). Through summarising the previous research results and investigating the current situation of the deep integration of information technology and teaching in Qingdao Xinghua Automobile Engineering School, this study finds existing problems, analyses the reasons behind them and proposes corresponding improvement countermeasures, hoping to further enrich the research results of the deep integration of information technology and teaching and to provide theoretical references for its future implementation.

At present, the theoretical results of the deep integration of information technology and teaching are relatively abundant, but its practice is relatively lagging behind. Therefore, this paper investigates the current situation of deep integration from actual classroom teaching, using questionnaire, interview and observation methods to analyse its current problems, find out the reasons and put forward corresponding improvement countermeasures, in order to help teachers implement deep integration of information technology and teaching, so as to improve teaching quality and effectiveness and make the course better implemented. At the same time, it is hoped that students will have a better experience in the course, improve their cultural literacy, and help to promote the teaching reform of China's secondary school curriculum.

Conclusion

This study uses the literature analysis method to analyse the current situation of domestic and international research, summarise the connotation and characteristics of the deep

---

integration of information technology and teaching, grasp the development characteristics of the deep integration of information technology and teaching, and lay a theoretical foundation for the subsequent integration path.

1. The use of information technology has become one of the features of modern educational technology.

2. Information education should be used in the education and teaching process to develop the creative potential of students, to foster their creative thinking, to stimulate innovative thinking as a means of implementation, to foster students' sense of innovation, to encourage and inspire students to take the initiative to think, to think well, to learn to think independently and to promote the harmonious development of students.

3. To strengthen teaching innovation and promote the deep integration of information technology and teaching

4. To fully mobilise the subjective initiative of students' awareness and practice it is necessary to apply modern educational technology.

References

Chen, Mingzhong. (2020).The dilemma and countermeasures for the deep integration of information technology and curriculum teaching in higher vocational institutions[J]. Southern Journal of Vocational Education,10(05), 90-94.

Jiang, Changzhou. (2022).Exploring the deep integration of information technology and subject teaching [J]. Test and Research, (19), 90-92.

Lai, Ga-hou. Zhao Yingfang. Pan Hongtao. The U.S. National Education Program - Toward a Golden Age of American Education[J] ,10(05), 90-94.

Liu, Yan, Tian Hong, Ren Shuyan, Chen Hongyang. (2020).Research on the deep integration of information technology and education teaching [J]. Green Technology, 2020(09), 251-252. doi:10.16663/j.cnki.lskj, 09, 102.

Qiu, Na. (2020). Research on the path of deep integration of modern information technology and university education teaching[J]. Light Textile Industry and Technology, 49(05),152-153.

Wang, Baozhong. Dong Yuqi. Comparison of domestic and international development of information technology education in primary and secondary schools [J]. Information Technology Education, (05), 52-54.

Zhang, Huiling. An analysis of the deep integration of information technology and curriculum teaching [J]. Gansu Education Research, (06), 52-54.

Zhou, Xiaofei. (2020).Deep integration of information technology and teaching of professional courses in secondary schools[J]. Computer Knowledge and Technology,16(24),129-130+148.DOI:10.14004/j.cnki.ckt.2020.2700.