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

by

GUANGCHU YU

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF EDUCATION

IN EDUCATIONAL ADMINISTRATION (INTERNATIONAL PROGRAM)

SOUTHEAST ASIA UNIVERSITY

ACADEMIC YEAR 2022

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

GUANGCHU YU

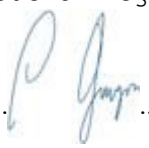
AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF EDUCATION IN EDUCATIONAL ADMINISTRATION (INTERNATIONAL PROGRAM)

SOUTHEAST ASIA UNIVERSITY

2022

Independent Study Title	The Path and Method of Deep Integration of Information Technology and Teaching
Author	Guangchu Yu
Program	Master of Education in Educational Administration (International Program)
Advisor(s)	Asst. Prof. Lui Laibing, Ph.D.

Graduate School, Southeast Asia University, was approved as partial fulfillment of the requirements for the degree of Master of Education in Educational Administration. (International Program)



..... Dean, Graduate School

(Puttithorn Jirayus, Ph.D.)

.....Director, Master of Education in Educational Administration (International Program)

(Asst. Prof. Smithirak Jantarak, Ph.D.)

Independent Study Committees

..... Chairman

(Prof. Narin Sungrugsa, Ph.D.)

..... Committee

(Asst. Prof. Smithirak Jantarak, Ph.D.)

..... Advisor

(Asst. Prof. Lui Laibing, Ph.D.)

Title	The path and method of deep integration of information technology and teaching
Number of pages	58 pages
Author	Guangchu Yu
Program	Master of Education in Educational Administration (International Program)
Advisor	Assistant Professor Dr.Lui Laibing, Ph.D.
Academic Year	2022

ABSTRACT

. This paper adopts research methods such as literature method, questionnaire survey method and interview method. Based on the understanding of the concept of deep integration of information technology and teaching, this paper 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, as well as 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.

Keywords: information technology, deep integration, secondary education

Acknowledgement

As the years go by, I am coming to the end of my research career. Looking back on these two years, I feel that I have gained a lot. I could not have done it without the teachers who have taught me, the students who have helped me and the family who have supported me. I am very grateful to you all.

First, I must thank Dr. Puttithorn jiayus, Dean of the Faculty of Education, Assit. Prof. Dr. Smithirak jantarak and all the teachers in my classes for giving me professional knowledge and solid professional skills in education. I would also like to thank all the teachers for their guidance and valuable comments on the revision of my thesis, which made it better.

Secondly, I would also like to thank my family and friends who have given me support and assistance, for your encouragement and support, and for the care and love I have received from my family. Your concern is the source of my positive motivation!

Finally, as graduation approaches, in my future work and life, I will remember the teachings of my teachers and continue my relentless pursuit to repay all those who have supported and helped me!

Guangchu Yu

Table of Contents

Chapter 1

Introduction

1.1 Statement of the Research Problem

1.1.1 Problem statement

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.

1、Exploring the paths and methods of deep integration with teaching and learning in the context of traditional information technology abroad.

In 1985, at the Fourth World Congress on the Application of Computer Education held in the United States, the theme of the Congress was to use computers as an effective "tool"; computer-assisted teaching should be properly integrated into the various teaching courses in computer education. Our educators felt this international breath of computer education and gave a timely response at the Third National Conference on Computer Education in Secondary Schools held in 1986. Experimentation with computer-assisted teaching was limited by various

factors to "areas or schools where it was available". This is why there was not much of a climate at this stage. In the framework of traditional teaching, teachers designed educational software that was subservient to the original teaching objectives, and the phenomenon of textbooks moving, flipcharts moving and experiments moving was serious.

At the stage of integration of information technology and teaching, teachers have used a large number of information-based teaching resources, such as videos, pictures, courseware and so on, but the teaching is mainly based on PPT courseware, and is mainly used by teachers, its content is set to assist teachers in teaching to achieve the purpose of teaching, what is presented on the courseware, students will see what, can not meet the needs of all students, play a role is not There is no substitute for it. In particular, a small number of teachers simply transfer the content from the textbook to the courseware, without any real meaning.

In traditional teaching, there are not enough resources to support students' independent inquiry, resulting in too little efficiency for students to complete the construction of knowledge on their own. If classroom teaching is carried out with the efficiency of students' independent inquiry into knowledge, then teaching efficiency is not achieved and teaching tasks are difficult to complete, so teachers cannot give students much initiative.

2、 To explore the paths and methods of deep integration with teaching and learning 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 information technology teaching resources, students' self-learning is no longer difficult and they can conduct efficient independent learning and achieve knowledge construction through independent inquiry. For example, if students encounter knowledge that they cannot understand in the process of independent inquiry, they can use micro-learning videos to answer their own questions. As long as the efficiency of students' independent inquiry in constructing knowledge is improved, teaching efficiency can be guaranteed and teachers can complete their teaching tasks by guiding students' learning. Therefore, information-based teaching resources are key to ensuring the effectiveness of 'student-centred' classroom teaching. Students' learning patterns have changed dramatically over the past few years and today's generation is a very individual one: they have a variety of ways of acquiring knowledge and lessons are not the only way; they are used to visual stimuli and are not used to reading long texts; they have short attention spans and are not used to sitting still for long periods of time; they like to multi-task, are keen to use mobile products and are receptive to trying new things.

To achieve the deep integration of information technology and subject teaching, the following conditions must be met: 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 type of information technology teaching environment is the smart classroom. In the smart classroom, in addition to powerful information technology equipment to support teaching, there is also a huge amount of information technology teaching resources, students have an intelligent learning terminal, they can carry out independent learning of knowledge according to their own needs, the teacher teaching is no longer the main source of student knowledge; teachers through the big data monitoring of student learning, accurate analysis of the learning situation, targeted development of teaching strategies to improve Classroom teaching efficiency. The smart classroom based on IT hardware and software resources

can well support independent, collaborative and inquiry-based learning. Compared with the traditional teaching environment, it focuses more on student learning and can well realise interactive and personalised teaching.

3、The current state of teaching and learning 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.

1.1.2 Research questions

Around 2010, the application of information technology, as the most advanced productivity, has achieved significant results in other areas, but its application in the field of education has not been very effective: it mostly stays at the level of means and methods, while for the improvement of the quality of education (i.e. the cultivation of a large number of innovative talents), information technology seems to be dispensable or just an icing on the cake, neither becoming an essential factor in education, let alone It has not become an essential element of education, let alone a revolutionary influence on its development. This led to the famous question of Steve Jobs - "Why is it that computers have changed almost everything, but have had a surprisingly small impact on school education!"

This study asks the following three questions.

1、What are the traditional paths and methods of deep integration with teaching and learning in the context of information technology?

2、What are the modern paths and methods of deep integration with teaching and learning in the context of information technology?

3、What does the current state of teaching and learning look like in a modern educational context?

1.2 The Research Objectives

By studying the paths and methods of deep integration of modern information technology and teaching can no longer meet the needs of teaching enhancement, and some vocational colleges and universities need to improve their information technology teaching aspects. The essence of education informatization is to change classroom teaching with information technology, and classroom teaching is the main site of school teaching. The deep integration of information technology and subject classroom teaching is the core and key to the comprehensive and deep integration of information technology and education teaching, which is of great practical significance in promoting the process of education informatization and improving the quality of education teaching and the level of education of people. Deep integration refers to the organic integration of information technology in the teaching process of various subjects, so that information technology and subject course structure, course content, course resources and course implementation are integrated into one, so as to better fulfil course objectives and improve students' ability to acquire, analyse, process, communicate, innovate and utilise information, and better develop their sense of collaboration and autonomy. In addition, by studying the paths and methods of deep integration of modern information technology and teaching has not been able to meet the needs of teaching enhancement, and some vocational institutions need to improve the information technology teaching aspect. Therefore, it is imperative to carry out the deep

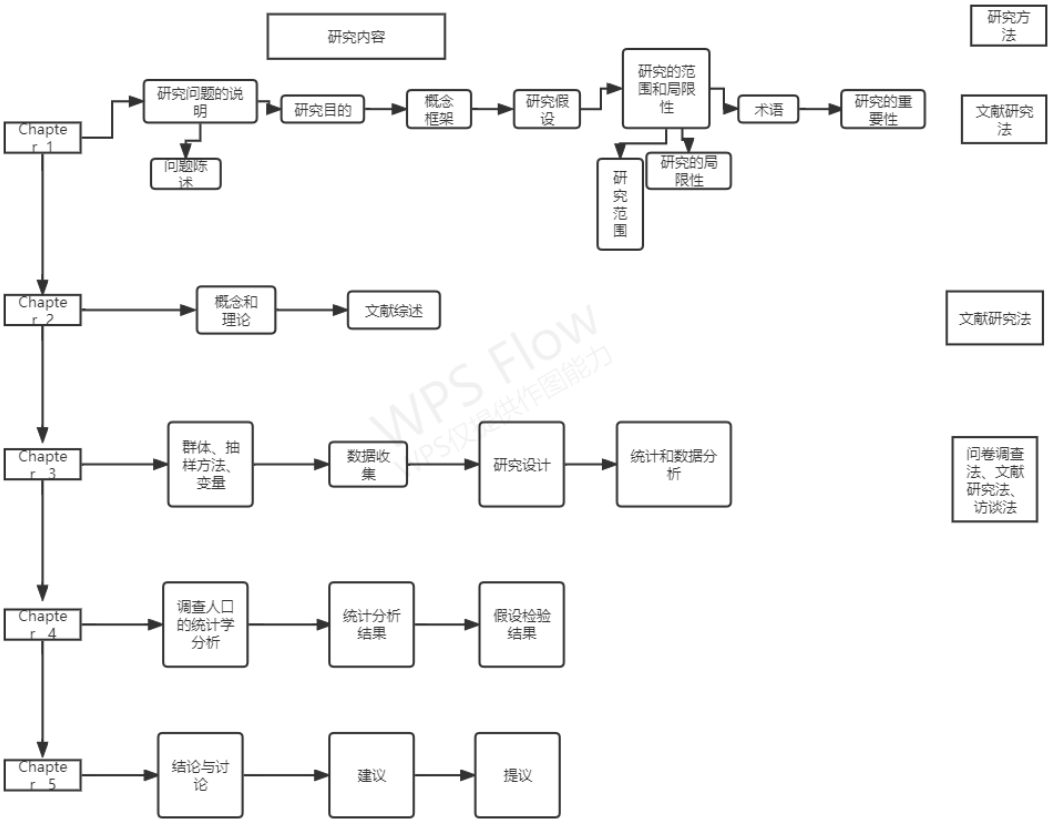
integration of information technology and subject teaching. The subject of this research contains both traditional and modern information technology teaching techniques, from which it can be seen that the main objectives of this research are.

2 1. To improve the quality of teaching and learning, to better carry out convenient teaching methods, and to explore better paths and methods for the deep integration of information technology construction and teaching.

3 2. Widen the channels and scope of access to information, enrich information resources and improve the efficiency of teaching activities.

4 3、 Provide a good platform for teachers to better conduct textbook research.

1.3 Conceptual Framework



1.4 The Research Hypotheses

Based on the review and summary of relevant theories and previous empirical studies in the literature review, combined with the purpose, research questions and conceptual framework of this study, the specific hypotheses of this study are summarised as follows.

H1: The deep integration of information technology with teaching and learning is the trend of future educational reform.

H2: The deep integration of information technology and education teaching is an important working concept of education informatization, and the use of information technology to improve the quality of teaching is an inevitable choice for the modernization of education.

Variable: Students' integration into modern IT teaching.

1.5 The Scope and Limitation of the Research

1.5.1 Scope of the study

In this study, questionnaires were administered to six teachers and 192 secondary school students at an automotive engineering school in Qingdao to find out how well these teachers and students accepted the application of modern teaching technology and the impact of information technology construction on them.

1.5.2 Limitations of the study

First of all, 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 domestic information technology teaching, 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, which makes most of the resources get wasted. With the shortage of practical teaching resources, the disparity of teaching resources among schools becomes larger and sharing becomes difficult. Secondly, some higher education institutions lack teachers with professional and technical level. Some school teachers still have traditional thinking and cannot learn and master new technology and equipment in time, which causes teachers to just use textbooks to explain when conducting classroom teaching, and even some students' technical level is higher than teachers. Finally, there are also some areas that do not pay attention to the methods of integrating information technology with education and teaching.

Finally, many pioneers in integration practice tend to analyse key factors such as technology, environment and people in isolation, failing to analyse the confusion and barriers to integration at a deeper level.

1.6 Terminology

Information Technology: Information Technology (IT) refers to the technology that extends the human function of human information under the guidance of the basic principles and methods of information science. Generally speaking, information technology is the sum of technology that uses electronic computer and modern communication as the main means to achieve the functions of acquiring, processing, transmitting and utilizing information. Human information functions include: information acquisition function undertaken by sensory organs, information transmission function undertaken by neural networks, information cognition function and information regeneration function undertaken by thinking organs, and information execution function undertaken by effect organs.

Depth of integration: Depth is to fundamentally solve the problems of education and teaching, that is, to transform the structure of classroom teaching. Integration is to integrate information technology with teaching, so that it becomes an organic whole with teaching and learning, providing services for teaching and learning and communication inside and outside the classroom.

Informatization of education: Informatization of education refers to the process of actively developing and fully applying information technology and

resources in all areas of education and teaching to cultivate talents who can adapt to the needs of the information society in order to promote the modernization of education.

A teaching model can be defined as a more stable structural framework and procedure of teaching activities established under the guidance of certain teaching ideas or theories. As a structural framework, the teaching model highlights the macroscopic grasp of the teaching activity as a whole and the internal relationships and functions between the various elements. As an activity procedure, it highlights the orderliness and operability of the teaching model.

Teaching resources: Teaching resources are the materials and other conditions that can be used for the effective development of teaching, which can be understood as all the material, natural, social and media conditions that can be used for education and teaching, and are the sources of teaching materials and information. They usually include teaching materials, case studies, films, pictures, courseware, etc. They also include teacher resources, teaching aids, infrastructure, etc. In a broad sense, they should also cover educational policies and other content. In a broad sense, teaching resources can refer to all elements that are used by the pedagogue in the teaching process, including the people, money, materials and information that support and serve teaching. In a narrow sense, teaching resources (learning resources) mainly include teaching materials, teaching environment and teaching back-up systems.

1.6 The Benefits of the Research

1.Theoretical implications

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 summarizing 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 provide theoretical references for its future implementation.

2.Relevance

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 study starts from the actual classroom teaching, using questionnaire, interview and observation methods 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 to 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.

Chapter 2

Literature Reviews

2.1 Concept and theory

Deep integration of information technology and teaching Information technology refers to the use of various hardware devices and software tools such as computers, networks, radio, television and multimedia to acquire, process, store, transmit and use a variety of information such as text, graphics, sound and images.

Information technology includes computer technology, communication technology, sensing technology and microelectronics.

The evolution of information technology has been divided into five stages as follows.

Stage 1: The production and use of language (technology produced: language, main feature: communication and transmission of information through language).

Stage 2: Invention and use of writing (technology produced: writing, main feature: storage and transmission of information beyond the limits of time and space for the first time).

Stage 3: Invention and application of printing and papermaking (technologies produced: printing and papermaking, main features: dramatic expansion of the speed and range of information transfer, further enhancement of information storage capacity, initial achievement of widespread information sharing)

Stage 4: Invention and application of telecommunication technologies such as telegraph, telephone, radio and television (resulting technologies: telecommunication technologies such as telegraph, telephone, radio and television; main features: further breakthroughs in time and space and another qualitative leap in the means and efficiency of information transmission).

Phase 5: Application of electronic computers and modern communication technologies (resulting technologies: computer technology and modern communication technologies, main feature: astonishing increase in the capacity to store, process and transmit information).

Depth is to fundamentally solve the problems of education and teaching, that is, to change the structure of classroom teaching, integration is the integration of information technology and teaching, so that it and teaching become an organic whole, to provide services for teaching and learning and communication inside and outside the classroom. Deep integration is to break through the classroom "wall", change the traditional teaching structure, and build a new "teacher-led - student-led" classroom teaching structure.

The so-called deep integration of information technology and education teaching is to create an information-based teaching environment through the effective integration of information technology with the teaching process of various disciplines to achieve a new teaching and learning style characterized by "autonomy, exploration and cooperation" that can give full play to the teacher's

leading role and highlight the students' main position. This will enable students' initiative, enthusiasm and creativity to be brought into full play and the traditional classroom teaching structure to undergo fundamental change - from a teacher-centred teaching structure to a "dominant-subject combination". The teaching structure of the classroom is fundamentally changed - from a teacher-centred teaching structure to a "leading-subject combination".

In February 2019, the State Council of the Central Committee of the Communist Party of China issued "China Education Modernization 2035", which proposes "accelerating the transformation of education in the information age. Build intelligent campuses and co-ordinate the construction of integrated intelligent teaching, management and service platforms" . In addition, the Ministry of Education's Ten-Year Development Plan for Education Informatization (2011-2020) also clearly states that "education informatization gives full play to the advantages of modern information technology, focuses on the comprehensive and deep integration of information technology and education, and plays an important role in promoting educational equity and achieving wide sharing of quality educational resources, improving educational quality and building a learning society, promoting changes in educational philosophy It has a unique and important role to play in promoting equity in education and the wide sharing of quality educational resources, improving the quality of education and building a learning society, promoting the change of educational philosophy and cultivating innovative talents

with international competitiveness. The deep integration of information technology with education and teaching is also a new concept proposed for the first time in the plan.

Professor He Keban proposes that the former "integration of information technology and subject teaching" is only from the perspective of changing the "teaching and learning environment" or "teaching and learning methods" (at most, it is only from the perspective of changing the "teaching and learning environment" and "teaching and learning methods" at the same time). The application of IT in the field of education was only emphasised from the perspective of changing the "teaching and learning environment" and "teaching and learning style", and the application of IT in the field of education was only a "gradual tinkering" in terms of improving teaching methods and approaches. It has not yet touched on the structural changes in education. He believes that every educator should be consciously aware of the fact that the application of technology should not be confined to the lower level of improving the "teaching and learning environment" or "teaching and learning methods", but must also be used to improve the "teaching and learning environment" and "teaching and learning methods". teaching and learning environment' and 'teaching and learning styles', but also to bring about structural changes in education - that is, to 'change the traditional ' teacher-centred' classroom teaching structure and build a new 'combined dominant-subject' classroom teaching structure". This is the basic starting point of the Ten-Year

Development Plan for Education Informatization, which proposes and advocates the new concept and practice of "deep integration of information technology with education", and is the essence and exact connotation of "deep integration of information technology with education".

Luo Fangxu, Director of the Technology Development Centre of the Ministry of Education, said that the Fifth Plenary Session of the 19th CPC Central Committee clearly proposed "building a high-quality education system and establishing a strong education country by 2035", and that the deep integration of information technology and education teaching is an innovative driving force to promote high-quality education development and establish a strong education country.

Li Kedong (Professor and Doctoral Director, Institute of Educational Technology, South China Normal University): Information technology and curriculum integration refers to a new type of teaching method in which information technology, information resources, information methods, human resources and curriculum content are organically combined in the course of teaching and learning to jointly complete the teaching tasks of the curriculum. It is a new perspective of China's basic education teaching reform for the 21st century, and is a type of teaching that has close connection and inheritance with traditional subject teaching, but also has certain relatively independent characteristics. Its research and implementation will be of great significance to the development of students' subjectivity, creativity and the cultivation of their innovative spirit and practical

ability.

2.2 Review of the literature

1. Review of domestic research

Searching for the keyword "deep integration of information technology and teaching in vocational colleges" and counting the literature, we find that the research on vocational education in China has been increasing in the past 20 years. A review of the relevant literature shows that information technology was applied to teaching in China as early as 1998. At that time, the application of information technology in teaching was mainly divided into two stages: the primary stage focused more on the instrumental nature of information technology, using sound, images and animation to stimulate students' interest in learning and help them learn. The latter stage began to focus on the teaching environment, which was changed by improving information technology teaching facilities and enriching teaching software and hardware. After 1998, China's education and teaching developed from the application stage of information technology to the integration stage of information technology, and the concept of "curriculum integration" was introduced with reference to advanced practices, after which front-line educators in China started a "curriculum integration boom". In 2002, Professor He Keqiang began to think about the theory of integration of information technology and curriculum. He believed that if computer-based information technology could be organically integrated with the curriculum of various disciplines, it could indeed have a variety

of valuable characteristics to optimise the education and teaching process. Chen Xiuhua studied the integration of information technology and language curriculum under the guidance of the theory of multiple intelligences, which believes that human intelligence is multiple and that each of us has at least eight relatively independent intelligences, namely logical-mathematical intelligence, linguistic intelligence, spatial intelligence, musical intelligence, physical The theory of "Multiple Intelligences" believes that we all possess at least eight relatively independent intelligences, namely logical-mathematical intelligence, linguistic intelligence, spatial intelligence, musical intelligence, physical intelligence, motor intelligence, self-intelligence, natural intelligence, interpersonal intelligence and existential intelligence which needs to be further verified. In order to change the traditional teaching mode, Cheng Jing researched constructivist theory to guide the deep integration of information technology and higher vocational English courses, arguing that constructivist learning theory provides strong theoretical support for the integration of information technology and higher vocational English courses, with specific applications in contextualised teaching, collaborative learning and online exploratory learning. In 2012, the term "deep integration" was proposed in the Plan, and thus the concept of "deep integration" first appeared in everyone's view.

The main levels of research include development, application, design, management and evaluation, and the themes of research include information technology construction, teaching courses, teaching models, teaching resources and

evaluation of teaching reforms. Research on teaching models tends to reconstruct information technology construction, such as the MOOC model, micro-courses and flipped classrooms that have emerged in recent years, which all rely on the construction of education information technology. As the concept of civilianisation and fragmentation of equipment and information technology permeates education teaching in vocational institutions, the emergence of smart campuses and mobile courseware reflects the growing momentum of research into the design and development of teaching resources. And in the teaching reform to deepen talent training and improve skills, strengthening practical teaching and combining new technologies with practice are also important initiatives to improve the overall quality of education.

The Ministry of Education states in the Basic Education Curriculum Reform Outline (Implementation): "vigorously promote the universal application of information technology in the teaching process, promote the integration of information technology and subject curricula, gradually realise changes in the way teaching content is presented, the way students learn, the way teachers teach and the way teachers and students interact, give full play to the advantages of information technology, and provide a rich educational environment and powerful learning tools for students' learning and development of students, providing a rich and varied educational environment and powerful learning tools".

The integration of information technology and subjects means using subject

knowledge as a carrier and infiltrating information technology as a tool and means to teach the subject. The integration of information technology and subjects can effectively complement each other's strengths and improve the effectiveness of teaching, and is therefore being used rapidly and widely. However, in the current classroom teaching, there are still some problems.

The application of modern information technology in education is still mainly at the stage of assisting teachers in teaching and assisting students in independent learning. Some schools have established smart classrooms, but the usage rate is not high and the learning effect is not obvious.

The application of multimedia technology in teaching has become very common, the use of multimedia to display teaching content, using text, sound, pictures, animation, graphics and other display teaching content, so that the teaching content is more colorful, vivid image, can greatly improve the teaching efficiency, increase the interest of students in learning, from the teaching methods, teaching content and other aspects of the traditional teaching mode, is the primary modern information technology in education It is the primary stage of application of modern information technology in education.

Nowadays, various online courses in colleges and universities are in full swing, from the MOOC, which has been on the rise since the beginning, to the SPOC, which is now in full swing. While using modern information technology to develop education and teaching, colleges and universities are constantly summarising,

improving and supplementing in order to arrive at the most effective teaching means and methods. During the development of online courses, educators and frontline teachers have invested a lot of human, material and financial resources in developing online courses, but the utilisation rate of these resources is low, student participation is low, and because of the lack of constraints, many students do not complete their courses and do not achieve the expected learning effect. In order to change this phenomenon, a combination of traditional teaching and

The rise of the SPOC, a small-scale, limited online course that avoids the disadvantages of both MOOCs, is considered the most effective teaching method today and is an application of modern information technology to improve teaching methods, teaching tools and teaching models.

Many universities have established smart classrooms, which use modern information tools such as multi-screen displays and touch devices to engage in learning and discussion, and students participate in hands-on activities to increase their initiative and enthusiasm for learning. However, Chinese universities have not yet truly realised small class teaching, and class sizes are too large for this type of smart classroom delivery mode; smart classrooms cannot match the teaching of all courses, resulting in low usage of smart classrooms in many schools.

The use of robotics for basic knowledge has already started in pre-school and primary education, but very little in colleges and universities. Colleges and universities are limited by their majors, with different majors requiring different

expertise, the difficulty of software development, and the high demand for robotics, such as answers to topical questions and future trends in the field. Knowledge updates always lag behind today's times, and tutorials for educational robots are lacking for students with research needs, which requires learning content to be updated at all times, and if this is the case for each profession, the support of a strong professional R&D team is needed. Researchers and educators work together to develop appropriate

The educational robot that fits the learning of university students frees teachers from the tedious transmission of basic knowledge and applies more time and energy to solving students' problems, answering their questions, communicating emotionally and guiding them towards deeper development.

In the "Internet+" environment, modern communication devices and networks have become popular in universities, so students who are not in the university or local area can use live webcasting tools to enjoy the style of famous teachers and discuss with them online in a timely manner, allowing students to learn and discuss knowledge in an environment as if they were there. This allows students to learn and discuss their knowledge in a live environment, so that they can appreciate the role of the master teacher and be guided to develop in their field of study despite the difficulties.

From the above overview, China at this stage has vigorously promoted the implementation of information technology in curriculum teaching, and get good

results, the integration of information technology and subject curriculum, gradually realize the teaching content presentation, students' learning, teachers' teaching and teacher-student interaction changes; give full play to the advantages of information technology, for students' learning and development to provide a rich and colorful educational environment However, there are still some problems that cannot be ignored in the specific operation.

1. Review of foreign studies

Searching for keywords such as "deep integration of information technology and teaching in foreign countries", we can see that the research on the construction of information technology in education and modern teaching technology varies from country to country in terms of task level, connotation and extension of educational reform programmes. However, in the same global context of informatization, countries have their commonalities. In recent years, foreign scholars have mainly focused on the effective application of information technology and curriculum integration, how to improve students' interest in learning, learning efficiency and the competencies and information literacy that teachers should have to develop in the information technology environment. Developed countries such as the UK, Canada and Japan have relatively high education standards and relatively good information literacy among teachers and students, so the research and application of information technology and curriculum integration has been carried out more extensively and in depth. According to the analysis, it can be seen that the USA, for

example, has a rich vocational education network with a high penetration rate and a high level of structured content. The main projects on teaching resources include PT3, TIIAP and other information-based campus programmes, which focus on teacher training and on the implementation and application of information technology.

At the international level, the leaders of eight countries - the United States, Japan, Germany, the United Kingdom, France, Italy, Canada and Russia - held a summit in Okinawa, Japan, from 21 to 23 July 2000 and issued the Okinawa Charter for the World Information Society, stating clearly that "information and communication technology is one of the most powerful drivers of social development in the 21st century and will rapidly become an important engine of world economic growth. Information and communication technologies are one of the most powerful driving forces of social development in the 21st century and will rapidly become an important engine of growth for the world economy. In order to meet the new requirements for human resources development and education in the information age, countries have taken a series of initiatives and carried out many fruitful studies and researches, among which the introduction of ICT into education and teaching and its integration with subject curricula has become a frontier issue. The integration of information technology into the curricula of various subjects has begun to be tightly integrated with the subject teaching process, exploring new teaching models for developing students' information literacy levels in the learning

of subject knowledge. The core of the integration of information technology and subject curricula is the use of information technology in the education and teaching process, making fundamental changes in educational perspectives, learning content, educational forms, teaching methods and approaches, and educational resources, making it the main way in which information technology will be applied to the education and teaching process in the future.

The UK was the first country to introduce the use of IT in subject teaching and learning and to improve the effectiveness and efficiency of IT use in teaching and learning. As early as 1988, the UK education reform included IT as a new additional subject in the National Curriculum; in 1995, it became a separate National Foundation Curriculum and explicitly required that the use of IT be integrated into the teaching of all subjects in the country (except PE) and that pupils be provided with opportunities to apply IT skills to the learning of other subjects through the resources that IT brings [3]. In 2004, HM2050, entitled "ICT in schools: The impact of government initiatives fives years on", stated that In July 2008, the British Educational Communications and Technology Agency BECTA published 'Harnessing Technology for Next Generation Learning (2008-2014)', which was published as 'Harnessing Technology for Next Generation Learning 2008-2014'. Generation Learning 2008-2014', which emphasises the important role of IT in world-class education and identifies the gradual shift in the way IT is used in both education and skills systems.

In conclusion, the evaluation criteria for the integration of information technology and curriculum in foreign countries are relatively sound, designed both at the macro level for information technology teaching evaluation programmes and at the micro level for schools and teachers. This is a useful reference for China to build an information technology teaching assessment system for countries or regions, schools and teachers.

Through the previous research, it is easy to see that China's research and understanding of the combination of information technology and teaching has been deepening, and has given birth to relevant concepts, the deep integration of information technology and teaching is a new concept based on the integration of information technology and curriculum teaching, and a look at the scholars' understanding of "deep integration" can also be found Although scholars have different descriptions of its specific connotation, they have all grasped the key content of "highlighting the main position of students and achieving structural changes in teaching".

Chapter 3

Research Methodology

3.1 Population/Sampling Methods/Variables

The subjects of this study are the teachers and students of Qingdao Xinghua Automobile Engineering School. There are 62 teachers and over 600 students in this school. The study used the principle of stratified sampling to select 6 teachers and 192 students from more than 662 people by grade for the questionnaire survey. Two teachers and 64 students were randomly selected for the questionnaire survey in senior one, senior two and senior three grades respectively.

3.2 Data collection

Three methods were used in this study: the literature research method method, the questionnaire method and the interview method. The researcher first found relevant scale literature as a reference for the development of the questionnaire. The researcher developed a pre-determined questionnaire pre-test and used SPSS to analyse the scales and complete a topic selection screening as a statistical basis for the determination of the formal questionnaire.

The literature method and the questionnaire method were used in this study. The literature method is a research method that requires the researcher to be comprehensive and objective, based on the collection and collation of relevant

literature in the field of study and the formation of new understanding after studying the literature. The literature method is one of the most classic methods in academic research and is simple and convenient.

This research method is used mainly to search, collate and research the literature after the research topic has been identified, culminating in a literature review to present a personal viewpoint to support the overall research work that follows - it helps the researcher to gain a systematic and comprehensive understanding of the field of study, so as to explain the research and develop the findings. It helps the researcher to gain a systematic and comprehensive understanding of the field of study, thereby explaining the research and developing the findings. Just like the answer to the question 'why do people read more', many of the answers to our unknown questions can be found in books, and literature is in fact essential for research.

The questionnaire method is one of the basic research methods in psychology that collects information through a questionnaire consisting of a series of questions to measure human behaviour and attitudes. With the advent of the technological age, the questionnaire mode has evolved into both offline and online. Researchers use online electronic questionnaires to study questions into questionnaires and communicate through WeChat interconnection so that the researcher can study the problem in a controlled measurement and manner. The

questionnaire method is a social practice, a broad research instrument, a comprehensive arrangement and analysis of collected information, a correct discovery of objective development patterns or deficiencies, and a good way for researchers to study and research social phenomena. The questionnaire method has the advantages of easy quantification of the findings, saving time, money and manpower, and facilitating the statistics and processing of the three characteristics.

The researcher designed the questionnaire in September 2022, 198 questionnaires were sent out and all were returned, the return rate was 100%.

3.3 Study design

This topic has three parts to the study, which are as follows.

In the first part, the paths and methods of deep integration with teaching models in the context of modern information technology at home and abroad are sorted out and studied. The structure of classroom teaching is a concrete expression of the interconnection and interaction of the four elements of the teaching system (teacher, students, teaching content and teaching media). The change of teaching structure is not empty and abstract, but must be implemented in the change of the status and role of the four elements of the teaching system. The goal of changing the status and role of the four elements of the classroom teaching system can only be truly realised through the design and implementation of effective teaching models in the classroom

by the teacher in charge. To this end, innovative teaching models that change the structure of the classroom should be used in different disciplines. One such teaching model is the flipped classroom, which has been highly sought after by teachers worldwide in recent years. To change the traditional classroom structure, in addition to an effective teaching model, rich teaching resources should be developed to serve as cognitive tools for students' independent learning and enquiry, as tools for students' collaborative communication and as tools for their emotional experience and internalisation.

In the second part, the paths and methods of deep integration with teaching resources in the context of modern information technology at home and abroad will be sorted out and studied. During the prevention and control of the new epidemic this year, schools at all levels in China launched online teaching practices for more than 200 million students, effectively realising "non-stop teaching and learning without stopping classes". The Education Informatization 2.0 Action Plan points out that it will actively promote "Internet + Education", adhere to the core concept of in-depth integration of information technology and education teaching, adhere to the basic policy of application-driven and mechanism innovation, establish a sound mechanism for the sustainable development of education informatization, and... ...truly out of a Chinese characteristic of the development of education informatization road. Specifically, the deep integration of information

technology and teaching requires not only a combination of form, but also a full integration of content, helping students to be able to understand the connotations and extensions of knowledge in depth in the learning process, so that they can use their knowledge more proficiently and flexibly to solve practical problems. How to implement the Education Informatization 2.0 Action Plan and promote the in-depth integration of information technology and subject teaching is an important issue in front of the majority of teachers. With the influence of the current information age, classroom teaching has gradually developed in the direction of information technology, and more and more information-based teaching methods have appeared in front of people's eyes, such as smart classroom, intelligent teaching, micro-lesson teaching, whiteboard teaching, etc. All these teaching methods belong to the product of the deep integration of information technology and subject teaching. Driven by this form of teaching, the transformation of classroom teaching has been greatly promoted, making the quality and efficiency of teaching also grow to a great extent.

In the third part, the paths and methods of deep integration with teaching reform in the context of modern information technology at home and abroad are sorted out and studied. The implementation of the new curriculum reform requires teachers to pay attention to the comprehensive development of students, but some teachers are deeply influenced by the traditional view of education, and their

understanding of the teaching tasks under the guidance of the new curriculum remains superficial, neglecting the innovation of teaching methods and objectives.

The use of information technology to build a modern classroom can help teachers to use a variety of presentation methods to stimulate students' interest in learning. In computer courses, for example, students often find it difficult to understand abstract concepts through their own intuitive thinking, so teachers need to use appropriate aids to demonstrate and analyse knowledge, and thus help students to understand and practise. The innovative use of information technology in teaching allows teachers to use a variety of dynamic video interpretation, which not only helps students to understand theoretical knowledge, but also stimulates students' interest in investigation with the help of interesting display forms, so that students can learn under the driving force of interest and further vitality of the classroom.

This study is a research with quantitative (quantitative analysis). The documentary research method was used to obtain a comprehensive picture of the issues to be studied through the systematic collection of material on the real and historical situation of the subject of the study, as well as through a survey of the literature to obtain information according to the purpose of the study and the research topic.

3.4 Statistics and data analysis

In this study, a questionnaire was used to determine the research structure and target population based on the above literature review and related theories and research objectives. A measurement instrument suitable for this study was selected. The study consisted of a questionnaire on the use of micro-video by secondary school students and an interview content form for teachers. An online electronic questionnaire was used for distribution, measurement and collection of SPSS data analysis directly from the online context for classification and analysis. The survey revealed that most teachers were able to make full use of computer-assisted teaching and most students were also able to access learning resources from their computers and were able to accept the use of computer-assisted teaching as a teaching method by teachers in the classroom. In order to understand the actual situation of students' independent learning in IT classes, a questionnaire on the use of micro-video by secondary school students was developed on the basis of a large amount of literature, which is shown in Annex 1. This questionnaire mainly focuses on three dimensions of students' independent learning attitudes, independent learning processes and independent learning habits, and a total of 12 single-choice questions were designed. The reliability and validity of the questionnaire were predicted by SPSS data processing software. Details of the questionnaire can be found in Annex 2.

表 3-1 可靠性统计资料

Tab. 3-1 Reliability Statistics

克隆巴赫 Alpha	项数
.798	9

The reliability of this study was 0.798, indicating that the questionnaires collected in this study were of good quality, with high reliability, good stability and consistency.

表 3-2 KMO 和巴特利特检验

Tab. 3-2 KMO and Bartlett Test

KMO 取样适切性量数		.818
巴特利特球形度检验	近似卡方	3071.856
	自由度	36
	显著性	.000

The validity of this analysis was 0.818, indicating that the data were suitable for factor analysis; the Bartlett's sphericity test chi-square value was 3071.856, $p<0.01$, indicating that the relationship between the items was good and could be used for factor analysis. From the SPSS processing results, it can be seen that the reliability and validity of this questionnaire are relatively good, which proves that the data reliability of the questionnaire is relatively high and the internal consistency of the questionnaire data is relatively high, which can be used for subsequent analysis.

表 3-3 可靠性统计

Tab. 3-3 Reliability Statistics

克隆巴赫 Alpha	项数
.870	25

The reliability of this study was 0.870, indicating that the study scale has high reliability, good stability and consistency.

表 3-4 KMO 和巴特利特检验

Tab. 3-4 KMO and Bartlett Test

KMO 取样适切性量数		.783
巴特利特球形度检验	近似卡方	8519.458
	自由度	300
	显著性	.000

The validity of this analysis was 0.783, indicating that the data were suitable for factor analysis; the Bartlett's Test of Sphericity chi-square value was 8519.458, $p<0.01$, indicating that the relationship between the individual items was good enough for factor analysis.

In this study, interviews were conducted with a total of six teachers from Qingdao Xinghua Automobile Engineering School. The design and application of micro-video teaching resources in actual teaching by front-line teachers were analyzed to understand the use of micro-video teaching resources from the teachers' perspective. The interview outline of the teachers was set up with five questions, and the content of the interview mainly included: the enthusiasm of front-line teachers in using micro-video teaching resources in actual teaching, their

evaluation of the effectiveness of micro-video teaching resources in classroom teaching, what problems exist in making micro-video teaching resources, and whether they understand the theory of designing micro-video teaching resources, etc. (For details of the interview content, please refer to Annex 3). Through analysis of the interview content, it was found that all teachers said they had used micro-video teaching resources in their classrooms, and they all affirmed the function of micro-video teaching resources as a teaching aid. Teachers believe that "micro-video is good for students to watch repeatedly and reinforce their learning of knowledge points" "Students will pay more attention to micro-video and have a stronger interest in the unseen elements involved in micro-video, increasing students' interest in independent learning ""It can address the important and difficult issues in teaching in a targeted manner"" "It makes up for the shortcomings of inadequate explanation in class and helps students to complete their learning tasks independently in class"" "Micro-video Teaching resources have functions such as guided learning, support and resource expansion", etc. The interviews revealed that all six teachers have the ability to develop micro-video teaching resources, and five of them said that they would use their own micro-video teaching resources in class.

Chapter 4

Data Analysis Result

4.1 Demographic Analysis of The Respondents

Table 4-1 Demographic analysis

Survey items	Category	Number of people	Percentage of
Gender	Female	22	11.4%
	Male	170	88.6%
Age	14-16	80	41.7%
	17-19	112	58.3%
Grade Level	Senior 1	64	33.3%
	Senior 2	64	33.3%
	Senior Year	64	33.3%

4.2 Statistical Analysis Results

1. A total of 192 secondary school students were studied in this questionnaire, with a smaller distribution of female students and a larger distribution of male students; the majority of students were 16 years old or older. Based on this, the basic profile of the students meets the needs of the type of students in this research.

2. The reliability and validity of the questionnaire were good, with the reliability of

all subscales and dimensions above 0.75, which means that the data obtained through the questionnaire survey can reflect the students' use of IT in a very realistic and reliable way (taking micro-video as an example).

4.3 Hypothetical Test Results

Hypothesis testing is based on the principle of small probability, which means that a random event with a small probability of occurring is almost impossible to occur in a single trial, so that we can make decisions about the original and alternative hypotheses. What is the probability of a small probability? This is a case-by-case analysis. The standard for a small probability is usually set at 0.05, but of course we can also take a larger or smaller probability depending on the severity of the possible consequences of the hypothesis test and the size of the test problem. The method of hypothesis testing is a counterfactual method of probability based on the principle of small probability events, which means that hypothesis testing logically uses a counterfactual method. The converse method means that to prove a proposition, one assumes that the opposite conclusion of the proposition is true, and then uses the known theorems or conditions to carry out a series of deductions that will lead to a result that contradicts the known conditions of the proposition or the known theorems.

This study puts forward two hypotheses for the deep integration of information technology and teaching, and after data testing, the hypotheses are

supported. On the whole, the empirical evidence of the hypotheses in this study is good, based on the existing research results at home and abroad and the understanding and judgment of the paths and methods of deep integration of information technology and teaching at home and abroad, and the research hypotheses are consistent with the actual situation in China and have a high degree of credibility.

Chapter 5

Conclusions and Discussion

5.1 Conclusions and Discussion

This study uses the literature analysis method to analyse the current situation of domestic and international research malefactors, to summarise the connotation and characteristics of the deep integration of information technology and teaching, to grasp the development characteristics of the deep integration of information technology and teaching, and to lay a theoretical foundation for the subsequent integration path. Secondly, the interview method was used to collect data, and six teachers were interviewed to collect effective data for promoting the deep integration of information technology and teaching. In addition, a total of 192 students in senior one, senior two and senior three were selected for questionnaire survey through stratified sampling method to ensure the comprehensiveness of the data. Finally, the data were coded based on the rooting theory to refine the core concepts about the deep integration of IT and teaching.

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

2、 Information education should be used in the process of education and teaching to develop students' creative potential, to foster 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 pedagogical innovation and promote the deep integration of information technology and teaching

4、The use of modern educational technology is necessary to fully mobilise students' initiative in understanding and practice.

5.2 Suggestions

Sukhomlinsky said that teaching is about teaching students the ability to draw on their own knowledge to acquire new knowledge and to make it a thought-provoking activity.

We must change our approach to education and teaching to effectively improve teaching efficiency. First, we promote the deconstruction and reconstruction of the curriculum system through personal learning spaces. The school has built a modular, charted curriculum, with the curriculum system as the core, and established an implementation system, a service system and an assessment system. In the process of implementing the system, students can complete technical exchanges, online quizzes, case downloads, student feedback and other activities through the "service system" website, and teachers are encouraged to develop the curriculum.

Second, it relies on individual learning spaces to promote the transformation

of teaching methods and approaches. Teachers teach students in groups, case teaching, project teaching and virtual live teaching according to their learning situation, design teaching units with project-driven carriers, students organize project development groups spontaneously, the groups undertake practical tasks independently and actively, students complete all the work of the project and accumulate valuable practical experience under the guidance of teachers, while teachers and students, students and students The space allows for timely communication, interaction and mutual evaluation, promoting a shift from the traditional closed, indoctrination-based teaching style to an open, interactive teaching style.

The third is the use of personal learning space to create a new teaching model of 3G live-action teaching classroom. The school selects engineers, technicians and operators as field instructors, and through 3G technology, the working environment of the field is presented in real time in the classroom by means of video, and the operation process and methods are explained to students in the real-life teaching field, realising the communication and interaction between instructors with practical experience and students and teachers in the classroom, overcoming the drawbacks of the traditional teaching method of "teaching skills in the classroom and driving machines on the blackboard This overcomes the drawbacks of the traditional teaching method of "teaching skills in the classroom and running machines on the blackboard" and promotes the enhancement of

students' vocational skills. Therefore, classroom teaching should be led by teachers' creative teaching, with students' exploratory learning as the main body and development as the main line, and students should be provided with an environment for observation, operation, practice and independent thinking in teaching. The organic integration of modern educational technology and subject teaching provides an interactive, friendly and open practice environment, which is ideal for students' independent learning. As long as teachers are good at creating a teaching environment, organising and guiding students, and allowing them to explore and think actively in practical activities, teaching efficiency will be greatly improved.

Fourthly, the personal learning space has been used as a carrier to enable the majority of teachers and students to actively participate in the construction of resources, forming a new pattern of everyone actively participating in higher education digital resources and common construction and sharing.

5.3 Recommendations

1. attach importance to the upgrading of teachers' IT application capacity. 2019 The Ministry of Education issued the Opinions on the Implementation of the National Primary and Secondary School Teachers' IT Application Capacity Enhancement Project 2.0. It is required that through upgrading training, the information technology leadership of headmasters, the information technology teaching ability of teachers and the information technology guidance ability of

training teams should be comprehensively improved, so as to promote the integration and innovative development of information technology and education teaching to achieve new results. Schools should develop upgrading plans according to the situation, develop relevant training tutorials, and advance in a tiered manner to gradually achieve an overall improvement in teachers' application capacity.

2, pay attention to information technology and classroom teaching research. Teachers have the ability to master information technology, we must study in depth the integration of information technology and teaching, master how to use information technology to solve the key points and difficulties, how to make the classroom more open and interactive through information technology means, and change the mode of full classroom. In the process of teaching research, research on the application of technology should be conducted.

3. Promote application through activities. Schools should promote teachers' active participation in applied research through activities such as debriefing lessons, excellent lesson evaluation, lesson production competitions, collection of excellent cases and writing application papers. The activities will also help to promote mutual exchange and learning among teachers and subjects.

4. Strengthen the accumulation and application of education data. The current electronic schoolbag, online marking and education APP and other systems will produce a large amount of educational data, schools and teachers should be good at using these data, accurate analysis of student learning, with the support of

data, you can effectively carry out graded teaching, according to the students' learning situation to assign homework, so that you can also achieve the effect of reducing the burden.

5. Teachers are encouraged to carry out research on IT application topics. Research on the subject is an effective way to enhance teachers' abilities. The direction of the research can be a lesson to see what difference there is before and after a year of application? What is the effect after application? It can also be the application of information technology in a particular topic. It could also be the application of IT in a subject. And the use of IT in classroom management. It can be an individual study or a team study, which will not only enhance the teachers' application skills, but also their research skills.

6. Establish an effective IT competency evaluation system. Schools can base on the competency requirements of IT applications. They can refer to the 30 micro-competencies of IT applications for primary and secondary school teachers and divide them into different standards according to teachers' age and competency levels, so that teachers can start from the basics and gradually improve their competency. By setting the evaluation system according to different criteria, schools can effectively motivate teachers to learn and can also effectively enhance the application level.

The information age is here. Instead of passively accepting information technology, we should actively embrace it.

References

Wang Baozhong. Dong Yuqi. Comparison of domestic and international development of information technology education in primary and secondary schools [J]. Information Technology Education, 2005(05):52-54.

LAI GAHOU. Zhao Yingfang. Pan Hongtao. The U.S. National Education Program - Toward a Golden Age of American Education[J] 2020,10(05):90-94.

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

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

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

Zhang Huiling. An analysis of the deep integration of information technology and curriculum teaching [J]. Gansu Education Research,2022(06):52-54.

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

Liu Yan, Tian Hong, Ren Shuyan, Chen Hongyang. Research on the deep integration of information technology and education teaching [J]. Green Technology,

2020(09):251-252. doi:10.16663/j.cnki.lskj.2020.09.102.

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

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

Biography

Name- surname	Guangchu Yu
Date of birth	February 17, 1979
Place of birth	Shandong Province, China
Address	No. 6 Chung cheung road Rd., ShanDong, China
Workplace	Xinghua Automotive Engineering School
Position	Headmaster
Education	1999, Chinese Language and Literature, Education, Qufu Normal University

THE ICBTS 2022

International Academic Multidisciplines Research Conference Paris 2022

Paris, France
25 – 26 November, 2022

CERTIFICATE OF PRESENTATION

Handed to

Guangchu Yu

For outstanding research paper presentation

The path and method of deep integration of information technology and teaching

Organized by ICBTS Conference Center & IJBTS International Journal of Business Tourism & Apply Sciences at Paris France

Professor Dr. Kai Heuer
Academic Program Chair

iBEST