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Research on Teaching Mode of College Subject—Based on Intelligent Interaction

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Abstract

The development of educational informatization has brought about great changes in educational form and learning mode. Through the deep integration of subject teaching and information technology, colleges and universities can realize the goal of core literacy education. Intelligent teaching based on intelligent interactive technology can promote the transformation of educational ideas, improve TPACK teaching ability, and realize the reform and innovation of teaching mode, so as to guide students to learn independently, practice and process evaluation and reflection. Teachers promote the implicit development of students' core literacy by constructing intelligent interactive individualized learning environment.

Subject Areas

Pedagogy

Keywords

Core Literacy, Intelligent Interaction, Integration, Individuation

1. The Inevitability of Subject Teaching Reform in Colleges and Universities at the Present Stage

Foreign education research shows that higher normal education should be deeply integrated with modern information technology, so that higher education can meet the needs of talent training and thus achieve sustainable and healthy development(Wei *et al.*, 2015) [1]. Education at present, education is in the period of transformation from "application" to "integration" and "innovation". Only when teachers have advanced educational concepts and methods, the deep integration of disciplines and information technology and even the teaching innova-

tion enabled by technology can occur (Zhu *et al.*, 2018) [2]. The deep integration of emerging information technology and education and teaching has given new connotations to the role of teachers, and new changes have also taken place in teachers' role and positioning, skills and literacy requirements (Xie *et al.*, 2019) [3].

Teachers should further practice and study how to cultivate the necessary character and key abilities suitable for students' lifelong development in teaching (Ru *et al.*, 2016) [4]. The research is conducted for this purpose that it can make full use of the multiple modern functions of college students' mobile phones to make it an important supplement to the use and processing of information technology in colleges and universities, so as to improve the effect of college students' professional learning.

2. Subject Teaching Mode Transformation

2.1. The University Teaching Mode Needs to Be Changed Rapidly

Emerging and modern technologies such as big data and artificial intelligence emerge in endlessly. However, the change of information technology to classroom teaching has had relatively little effect.

2.1.1. Situation Analysis

The development of information technology has made mobile interactive terminals such as mobile phones and tablets become an important part of people's life. It has become an indisputable fact that mobile phones are almost a part of the body of young people today. According to the survey, mobile phone use has occupied most of ordinary college students' classroom and extracurricular life. There is a problem of high frequency of using mobile phones without permission in university classrooms, This situation has seriously Lead to the general decline of students' classroom learning quality and affected the study and life.

2.1.2. Problem Performance

There are still many problems in teachers' information teaching. It can be found that most teachers still stay in the classroom teaching in the broadcast of teaching courseware PPT, teaching animation, audio, video files and other application levels, reflected in the multimedia demonstration dissemination, stay in the information display and transmission of information, mainly reflected in the teachers' collective broadcast demonstration and information display teaching service level.

2.1.3. Teaching Consciousness

Students are only an audience, and rarely can really participate in the teaching activities. As a result, students are always in a passive state in class, resulting in more and more college students are also attracted by their mobile phones in class, addicted to it, which aggravates the weariness, and then ignore the classroom discipline of classroom teaching rejection, and finally makes the failure of classroom education, and more heavy on the education crisis. The problem that makes classroom management for college teachers and students more difficult is

how to guide college students to use their mobile phones properly and transform them into learning AIDS.

2.1.4. The Quality of Teaching

If teachers still adopt the inherent curriculum construction methods and teaching mode, follow the book, follow the screen of the class, do not try to create teachers and students inside and outside the classroom interaction, this will still not attract students to participate in teaching activities, will lead to the quality of college students training continue to decline. Obviously, this has a huge impact on the talent training of colleges and universities, and is far from the realization of today's college education goals.

2.2. Related Causes of the Problem

At present, the problems presented by classroom teaching in higher education have not been effectively adjusted, and there are no suitable coping measures. Although in the actual teaching, some teachers adopt mixed teaching, integrating offline and online teaching, and providing convenient for education and teaching(Zhang *et al.*, 2019) [5]. The skilled use of information technology does not mean the deep integration of information technology and teaching. The key to the deep integration of information technology and teaching lies not in technology but in teachers.

For accustomed to the traditional teaching mode of most teachers, change the traditional teaching habits to the new teaching mode, this is the change of their teaching understanding and methods, in the process of thought transformation and application may encounter difficulties, many teachers let college students use mobile phones in class, alienated due thinking training and training, lack of quality formation and mental cultivation of education content, unable to guide students to learn effectively. Most teachers in colleges and universities seem to use modern information technology, but they have not really changed the traditional teacher-oriented teaching, which will not be conducive to students' independent learning and lifelong development.

In the process of subject teaching, teachers still need to constantly learn and try to change the inherent concept and change the teaching mode, and finding the teaching strategies suitable for contemporary college students also needs continuous learning, practice and reflection. The new curriculum concept emphasizes that classroom teaching is no longer a process in which teachers teach knowledge, but a process in which teachers and students grow together to realize teaching and learning and implement the educational goals. Due to the lack of deep integration of the information technology and the subject teaching, the subject teaching cannot realize the core literacy education, which has become a key obstacle to promote the teaching reform.

2.3. Teacher Teaching Should Serve the Students' Personalized Learning

As the digital "original people" in the development of the Internet era, contem-

porary college students have their behavior habits and learning methods have the characteristics of the modern era. To cultivate its core literacy, we should stand on the perspective of benefiting students 'active acceptance, and truly change the teacher-oriented teaching mode in traditional teaching. The key is to change the teaching concept and mode, and create a teaching environment conducive to students' personalized learning. This requires teachers before class, class and after class check each link of content do new reasonable design, make full use of the characteristics of young students and mobile equipment ability and can provide resources, make more appropriate learning behavior in mobile terminal, enhance classroom interaction, improve students' interest in learning, expand the ability of knowledge acquisition, so as to find a more effective teaching mode, adjust the existing teaching methods.

In modern college education, its core is the teaching mode formed by teachers with the support of human intelligence interaction technology platform. Under this mode, teachers can create a suitable learning environment for students and carry out educational and teaching activities. Today's Internet education forces traditional education to change with its openness, sharing and low-cost operation. Under the background of core literacy education, colleges and universities have extensively carried out the education and teaching reform of "cultivating people by virtue", and moved towards the "double first-class". The goal of college education reform aims to promote college students to more flexibly and actively study subject theory and practical courses, improve students' independent participation in learning, so that teachers can change the teaching environment and teaching mode inside and outside the classroom.

3. Deep Integration of Subject Teaching Modernization

To realize the goal of core literacy education, the information and the potential of science and technology need to support the development of teaching.

1) Subject teaching deeply integrates modern information technology and intelligent interactive teaching can make educators pay more attention to students' individual needs. In order to promote students 'independent and personalized learning, the learning environment of subject teaching courses created by teachers should use educational information technology tools to effectively integrate the teaching content and teaching process into students' independent learning activities, stimulate their interest in learning, and promote the construction of independent knowledge meaning and the formation of values.

2) Smart classroom teaching is different from the traditional classroom teaching. It pays more attention to the improvement of students' personality growth, and is more in line with the requirements of the lifelong development of the core quality of talents in the new era. Teachers should be able to use the most effective teaching methods to promote students' personalized development, and ultimately to effectively improve their comprehensive literacy, so as to implement the requirements of core literacy education. Teachers can design multi-level

learning activities supported by modern information technology according to the characteristics of students' learning behaviors and habits, stimulate learning interest and promote independent learning, and promote students to change from passive recipients of knowledge to active builders of knowledge and learning meaning, which is conducive to promoting the connotative development of their core literacy.

3) Based on the revelation that teachers' roles and ideas need to be changed as soon as possible, the teacher identity should shift from knowledge and information disseminator to resource design, integration and learning partners. Teachers should have interdisciplinary basic theoretical knowledge, information ability, cultural conservation and other (Wang *et al.*, 2018) [6]. Teachers should give full play to the wisdom of education, improve their teaching professional teaching ability, and show intelligent education by innovating teaching modes and changing teaching methods in the interactive process between teaching and learning. In order to better help teachers understand how to apply information technology in teaching, Keller (Koehler) *et al.* (Mishra *et al.*, 2006) [7] proposed the concept of "the subject knowledge of integrated technology (Technological Pedagogical Content Knowledge, TPACK)". TPACK ability involves three aspects of subject content, teaching method and science and technology, but it is not a simple superposition of these three aspects, but integrating technology and integrating into the teaching method of subject teaching to go to(He *et al.*, 2006) [8]. This view holds that TPACK is the knowledge and ability for teachers to use information technology in effective teaching.

4. Implementation Strategy

The creation of intelligent classroom is a teaching idea gradually emerging in the current field of education. Its purpose is to awaken the vitality and vitality of the classroom, so that wisdom can lead teachers and students to grow up together. Teachers should focus on creating an intelligent classroom, which is not only the call and requirement of The Times, but also an important choice of to optimize the teaching work and realize the goal of modernization, humanization and efficient education. "Intelligent interaction" education technology is based on artificial intelligence and interaction. In education, human intelligence form is presented, which can realize the communication and interaction between machines and users, teachers and students, students and students, as well as users and users.

The advantage of "intelligent interaction" teaching is "intelligent", promoting teachers to create intelligent classroom, customize learning content and learning activities for students, enabling students to participate in teaching activities by making teaching more intuitively; the interactive function supported by interactive technology platform encourages students to deeply participate in teaching activities, stimulate their interest in independent learning, and promote deep learning possibilities. In the classroom teaching in colleges and universities, the

paradigm of teachers' carrying out subject teaching plays a subtle role in guiding students in a series of learning activities such as intelligent learning, interaction, communication and evaluation.

4.1. The Application Value of Intelligent Interactive Teaching

"Intelligent interactive" educational technology is only a technical means to assist teaching. Teachers can deepen teaching based on the TPACK teaching concept, and design the teaching process and learning activities purposefully and selectively according to their own understanding of the curriculum and learner. Intelligent interactive-education technology can run through the whole process of students' learning. The development of science and technology promotes the change and development of teaching means and learning activities. Teachers can use intelligent interactive technology to solve the unified specification of traditional classroom teaching, and realize the hierarchical classroom teaching. Teachers can guide students to participate in learning efficiently with the help of information technology, and realize deep and effective learning. Learning activities and technological development complement each other. In the final analysis, the design and teaching mode reform based on information technology still serve the students' learning process.

4.2. Teachers Should Promote Students to Participate in Highly Interactive Learning Activities

Intelligent interactive-teaching often uses hardware devices, such as intelligent interactive tablet, to carry out teaching activities. In teaching, students can not only watch, but also participate in teaching activities through mobile terminals such as smart phones, tablets or smart classroom multi-touch interactive tablets, and then carry out learning activities such as personalized learning results display, sharing, communication and evaluation, so as to realize the interaction between man-machine, teachers, students and students. The deep integration of "intelligent interactive" educational technology and teaching can promote students to conduct personalized independent learning.

4.2.1. Intelligent Interactive Technology Promotes Teachers to Establish the Concept of Serving Learning

Intelligent and interactive teaching can help teachers to change their roles. In the teaching design, it is made clear that students are the masters of learning and the main body of classroom activities. Teachers should be the designers and guides of students' learning process. By designing scientific and reasonable teaching links, they should organize teaching activities and guide students to learn and think independently. Through the intelligent interactive platform, teachers can design and carry out learning activities such as learning results exchange, peer mutual evaluation and teacher-student evaluation, gradually change their ideas in teaching, promote students to realize the deep learning of independent meaning construction, and cultivate and develop their core qualities.

4.2.2. Intelligent and Interactive Pre-Class Preparation Helps to Accurately Locate the Classroom Teaching Objectives

For students, learning preparation is a series of preparations before the formal study, including pre-class preview, material sorting, tool preparation and so on. For example, teachers can choose to release micro-class and preview questions, intelligent pre-test with the help of teaching auxiliary software platforms (such as Superstar Learning Pass, Rain Classroom, etc., AI test software, etc.) according to teaching and students. Students can complete the learning preparation with the help of online communication platform and App. For example, in the pre-class preparation stage, the interactive platform will quickly feedback the preview situation, preview answers and reference content to students, so that students can make clear what they do not know enough about or have learning difficulties. Teachers can quickly learn the students' completion and learning feedback through the platform and then conduct intelligent analysis. Based on the relevant content of this course, understand the early learning situation of students, further determine the focus of this classroom teaching, and design and plan effective learning activities. In this way, the reasonable application of "intelligent interactive" education technology in teaching can make more full preparation before class.

4.2.3. Intelligent and Interactive Teaching Applications Can Run through the Classroom Teaching Process

Teachers can use "intelligent interactive" educational technology to make teaching more intuitive. In subject teaching, teaching preparation, teaching design, learning practice and learning evaluation can all be realized through "intelligent interactive" education. The classroom based on intelligent interaction can realize intuitive teaching, efficient interaction and process evaluation. For example, when teaching, teachers can set up the evaluation project of each learning task on the platform, constantly push it to the students, and then feedback the results to the teachers, so that the classroom teaching has a definite target. Students can evaluate and modify their peers' learning results online and then share with them. After class, there will be systematic feedback on the learning situation, learning attitude and homework in class, which enables students to reflect deeply and fill in the gaps. Students also make learning in a more intuitive and more efficient way, and constantly stimulate their interest in learning, and then can actively participate in learning activities.

4.2.4. Intelligent and Interactive Teaching Can Promote the Realization of "Teaching Students in Accordance with Their Aptitude"

College teachers and university administrators should pay attention to the use of college students' mobile phones to actively strive to improve their own for mobile phone modern information processing tools and information processing technology understanding and master become passive to active in terms of information collection, information calculation and processing, creative display, information output and information technology learning and information sys-

tem development, and so on.

Due to the restriction of the class teaching system, the "stratified teaching" is still difficult to realize at present, but the teaching supported by the "intelligent interactive" teaching technology can be assisted in the realization. For example, the classroom teaching objectives are designed at different levels, which can only be grouped online according to the learning feedback, and the students in different groups can learn different levels of content resources to complete the corresponding learning tasks. Teachers in class can through intelligent interactive platform constantly understand the students 'learning status and learning situation, dynamic focus on the differentiation of students' learning, the implementation of different teaching resources push and guidance, help students in the effective ability level for learning activities, to provide personalized learning guidance, auxiliary implementation "according to their aptitude", cultivate and develop the core quality of different students.

Relying on new intelligent technologies such as big data, Internet of Things, wireless communication, cloud computing and storage, the intelligent education has formed a new educational form and educational model, integrating various functions and characteristics such as Internet of things, intelligence, generalization and perception. The intelligent teaching mode is the core system of the whole new intelligent education.

5. Conclusions

The realization of intelligent classroom can make classroom teaching full of vitality, which is also the sacred mission of education and teaching reform in the new era. Based on the development goal of students' core literacy, college teachers should create a suitable learning environment for college students in teaching, reform from the teaching concept of subject teaching, teaching goal design, teaching process, hierarchical teaching and other teaching practices, and explore the intelligent and interactive intelligent teaching mode for the cultivation of core literacy.

Teachers change the teaching mode through the intelligent interactive technology terminal, organically integrate and interact with each link of teaching, and organically integrate the face-to-face classroom teaching and network platform learning. Using this mode improves the students' learning initiative. In this process, students have learned different ways to solve problems and mastered the learning skills. In this way, it can cultivate the students' initiative, improve the learning efficiency, and also promote the feelings between teachers, students and students.

However, it is worth noting that there are also some problems in the interactive classroom teaching mode to be further solved. With the increase of students' initiative in learning activities, the difference of individual learning quality of different students will increase significantly. It is necessary to further do the feasibility demonstration of personalized teaching program scientifically.

It is hoped that by using the intelligent interactive teaching mode, the teaching can be optimized for learners at different levels, teach students in accordance with their aptitude, promote the connotative development of students' core literacy, and promote the development of China's higher education towards the international direction.

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Conflicts of Interest

The authors declare no conflicts of interest.

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