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Research Article

The Influence of Wisdom Platform Teaching on Students' Learning Effectiveness in Higher Vocational Colleges

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ABSTRACT: Ten-year Development Plan for Educational Informatization (2011-2020) mentions that "a wisdom teaching environment should be built" and students are encouraged to take the initiative to learn, learn independently and learn in cooperation by means of information. Teachers are encouraged to use information zed means in the teaching environment to assist the successful completion of teaching. The wisdom platform classroom assistant software alleviates the limitations of real classes in schools and has a positive impact on students' learning outcomes. This paper reviews the literature on the relevant factors of students' learning effectiveness, and uses partial least squares structural equation SmartPLS3 modeling to study and discuss the relationship between wisdom platform teaching and students' learning effectiveness, and finally concludes.

Key words: wisdom platform, information technology, learning effectiveness, influencing factors.

INTRODUCTION

Education Informa ionization has become an important symbol of education modernization, and it is the only way for China to realize education modernization and build a powerful country in education. In February 2019, the Central Committee of the Communist Party of China and the State Council issued China Education 2035, which requires "making full use of modern information technology to enrich and innovate the form of curriculum". Smart education was born under this background. Implement education wisdom, means the reconstruction of education and education teaching structure, use the method of Informa ionization, intellectualized inspire modern classroom life, finally help students form can meet the need of social development and lifelong development of the essential character and key ability, become the knowledge, skills, ability, character the wisdom of the balanced development of talented people[1].

In the field of basic education, the cultivation of wisdom talents is constantly being integrated into the cultivation of core qualities in various disciplines. Therefore, educators should continue to explore how to effectively use modern information technology in the teaching of basic education to construct wisdom classrooms, cultivate students' subject quality and information quality, to meet the needs of students' further development[2].

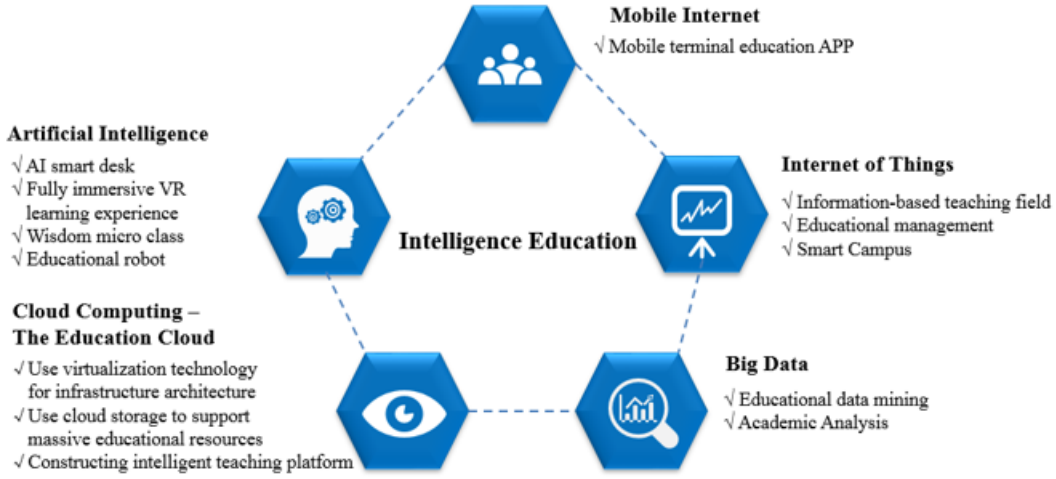

Fig.1. Technology boosts the development of wisdom education.

China has a large population and relatively insufficient educational resources. In order to achieve the goal of the new curriculum reform, we must span time and space, make full use of the means of information technology, establish the corresponding effective mechanism, and take the corresponding strategy to achieve it.At present, the construction and development of wisdom campus provide opportunities for the formation of students' personality and independent development, and provide a way for students to study effectively. The Wisdom campus information learning system is based on the Internet of things and cloud computing platform to create an information teaching environment. Through the wireless network connection device, it can be anywhere to learn. It can provide students with a wider range of information operation platforms. Improving the contribution of information and computerized teaching, to build an wisdom education environment, more and more teachers begin to apply information technology to improve the effect of classroom teaching, was born "wisdom platform", "super star via learning", "rain classroom", "vocational education wisdom", "cloud class" and "wisdom tree" and so on classroom assistant software (platform).

Fig.2. Mainstream intelligence platforms

LITERATURE REVIEW

INFLUENCING FACTORS OF LEARNING EFFECTI OF WISDOM PLATFORM

With the increasing popularity of wisdom education, many comparative studies on the teaching effect of

wisdom platform and the traditional face-to-face teaching effect have emerged. In almost all these studies, there was no significant difference in student learning outcomes between the two modes of instruction. Practice, however, is not the case, especially in our country. The teaching quality and teaching quality of traditional wisdom platform could not match exactly what are the factors affecting the teaching quality of intelligence platform. This article went through to in recent years at home and abroad about wisdom platform teaching effectiveness after the analysis of the factors influencing literature, the research conclusion summary as shown in table 1.

Table 1. Study on Influencing Factors of Learning Effectiveness of Smart Platform

Author	Research Conclusions
Arbaugh&Duray(2002)	1. Course flexibility, the number of participants and the degree of students' use of media have a significant impact on the satisfaction of media use and course satisfaction; 2. The ease of use of the learning platform has a significant impact on students' satisfaction with using it;
Hong(2002)	Learning effect has no significant correlation with students' gender, age, learning style and learning ability, but has significant correlation with students' learning motivation, learning strategies and achievement goals.
Thurmond, Wambach&Connor(2002)	The farther the students live from the campus, the shorter the time for teachers to respond to students' questions, and the more different learning evaluations they provide Evaluation method, students spend ess time on the course, feel more familiar with the teacher, and participate in the discussion state. The more positive the degree is, the more significant the correlation is with the students' learning performance.
Webster&Hackley(1997)	Technology Characteristics Teacher's Attitude to Technology, Form of Teaching and Control of Technology Student's Previous Use Experience and Student's Attitude to Computers Course Characteristics Participation is related to the number of students in the course Four characteristics are related to learning outcomes.
Lin Qianjia (2004)	wisdom platform self-efficacy, the flexibility, cognitive usefulness, stability, and the degree of interaction in teaching activities are significantly correlated with students' learning satisfaction.
Wang Yufang(1998)	The interaction among students' achievement goals, learning strategies, learning styles and training methods has an impact on learning outcomes, and the learners who actively experiment (adapters and convergers) havebetter results.
Liu Guanglong (2002)	In the study of higher vocational teachers, it is shown that learners' learning style, computer self-efficacy, learning motivation, previous experience, attitude towards wisdom platform teaching media, and the ease of use, cognitive usefulness and stability of using wisdom platform teaching system are significantly related to learning outcomes.
Wang Qiuhua (2001)	1. There is a significant correlation between learning motivation, learning satisfaction and learning effec 2. Achievement goals and learning strategies are significantly related to students' performance. 3.There is a significant correlation between learning motivation and achievement.
Xie Yijun (2022)	Students' learning satisfaction is significantly correlated with the usability, stability and cognitive usefulness of the wisdom platform teaching software.
Chen Guoen (1997)	The functional characteristics of the wisdom platform are related to students' learning results, which can be interpreted as learning results and learning results. Students' learning motivation, learning strategies, achievement goals and learning satisfaction are all significantly related to students' learning results and results.
Li Yan,Su Lichun&Yang Lie(2005)	Learning resources, learning effects, examination forms and curriculum setting of learning platforms are all related to learning satisfaction.

It can be seen from the above table that there are many factors that affect the learning effect, but a careful

analysis can summarize these factors into the following points: from the aspect of students' characteristics, including the main factors that affect the learning effect of students are learning motivation, learning strategies, achievement goals, learning satisfaction, etc[3]. The presentation of courses can rely on the wisdom platform of information technology, which includes the degree of trust of science and technology, the richness of content, the usefulness of system cognition, stability and ease of use, etc., as detailed in the following table[4].

Table 2. Key factors affecting the learning effect of the smart platform

Influence Factor	Subitem
Students' characteristics	Learning Motivation, Learning Strategy, Achievement Goal, Learning Satisfaction
Wisdom platform	Platform ease of use, platform stability, platform perceived usefulness

NECESSITY OF INTRODUCING “WISDOM PLATFORM” INTO HIGHER VOCATIONAL EDUCATIONN

From the perspective of theoretical basis, the introduction of a wisdom learning platform into classroom teaching in higher vocational colleges conforms to the internal requirements of constructivism learning theory. Constructivism holds that the learning process is not merely a process in which teachers impart knowledge to students, and students are not passive knowledge receivers[5]. The process of learning is the process of self-construction of knowledge that students process new knowledge based on an existing knowledge system. Teachers in the process not only are the imparter of knowledge, but also the organizer and guide of students' learning activities[6]. teachers' role is the role of good helper, director, for students' learning materials, establishment situation, build platform, create conditions for students' autonomous learning, interactive learning, let the student through participating in various activities inside and outside the classroom, Internalize and form your own knowledge system. wisdom platforms facilitate learners' access to more abundant learning resources and creates more convenient means of classroom organization for teachers. Modern means of information exchange also make independent learning, group collaboration and teacher-student communication more convenient, which are conducive to the knowledge reconstruction of learners and thus improve the teaching effect.

In terms of the class, today's college students are the generation that grew up with mobile phones. They are more dependent on mobile phones in life and study. They are very used to acquiring knowledge and information through the Internet and mobile phones and expressing their personal views through the Internet and mobile phones. The mobile network learning platform based on " Super Star Learning" is exactly in line with the learning habits of contemporary college students using mobile phones. It introduces modern information technology into traditional classroom teaching, breaking and restructuring. The original classroom teaching model used students' interest in mobile phones to stimulate their enthusiasm for learning English. By extending the teaching place from the original physical classroom to the ubiquitous virtual network space, students can

study in fragmented time anytime and anywhere, and have access to a wider range of better teaching resources. This undoubtedly improves students' class participation and teachers' teaching efficiency to a large extent[7].

SUPER STAR LEARNING

Super star learn is based on the architecture incognito, share knowledge of classroom teaching, communication and management platform, it by super star company spent more than 20 years of time, the accumulation of huge amounts of books, periodicals, newspapers, video and original resources, the summary of knowledge management, the establishment of teaching study, project creation, office application shortcut, To provide users with a "one-stop" learning and working environment. Super Star Learning Connect can be applied to mobile virtual online teaching tools such as smart phones and tablet computers, which can be used to carry out learning anywhere and at any time[8]. To some extent, it can relieve the limitations of real classes in schools. It can strengthen online and offline communication between teachers and students, so that students can conveniently obtain the required materials online, achieve the teaching objectives of all subjects, and improve the efficiency of students in class. Many colleges and universities use Super Star as the wisdom platform for learning. At its peak last year, daily page views were just over a billion. But during the epidemic, as students across the country attended classes at home, the number of visits to Learning Connect exploded. In February last year, the number of visits to Superstar Learning Connect reached 1.9 billion, which rose to 5.8 billion within 7 days, 8.9 billion within two weeks and 10.79 billion within a month. The highest usage rate reached 17.95 million students and more than 650,000 teachers attended classes on the Learning Connect platform. From a billion to a billion, almost a tenfold increase[9].

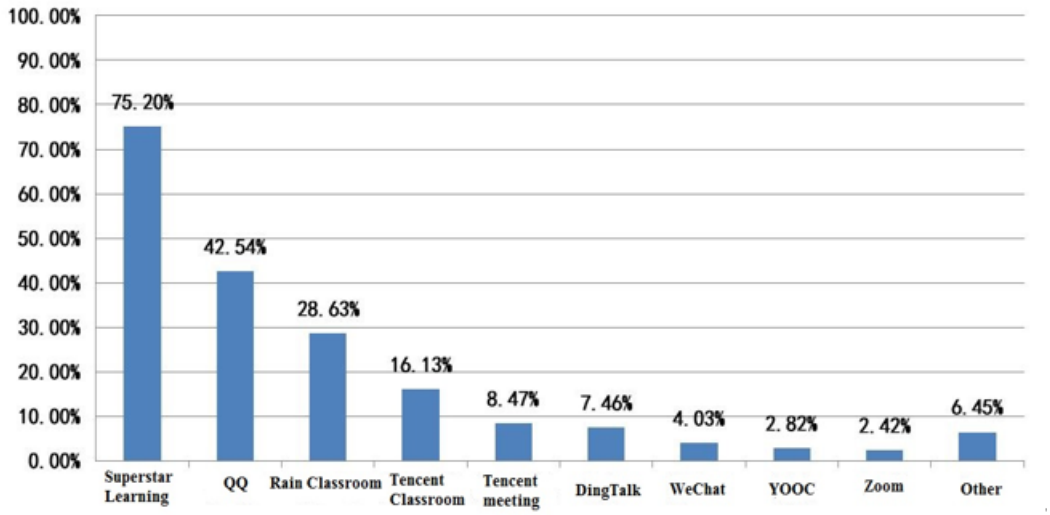

Fig.3. The usage of mainstream "wisdom platform" APP users

RESEARCH METHOD

THE SAMPLE

This study mainly adopts the mixed research method, namely the combination of qualitative analysis and quantitative analysis, mainly adopts the literature analysis method, the statistical analysis of questionnaire survey data, and supplemented by focus group interview to collect data. Research mainly chooses C school in

Wuxi city, Jiangsu province as the research object. The state-owned public school is a provincial full-time higher vocational college, belonging to the education department of Jiangsu province. in 2019 national "twin" school class A construction of colleges and universities, and in 2019, 2020 list ranked the 4th competitiveness in higher vocational college. In 2020, the school won the award for the institutions of higher learning education informatization construction in Jiangsu province advanced collective. In the same year for digital campus construction model vocational colleges, as a demonstration of colleges and universities in Jiangsu province, the national leading schools in vocational colleges, the wisdom of environmental construction in higher vocational colleges in China, the school has universal access to use platform teaching wisdom. In the process of promoting the application of educational information, C School in Wuxi City, Jiangsu Province has been striving to promote the reform of teaching and learning methods and cultivate students' practical and innovative abilities. In February 2021, Jiangsu Provincial Department of Education issued the Notice on the Announcement of the Examination and Recognition Results of Jiangsu Smart Campus and Demonstration Schools in 2020 (Jiangsu Education Letter [2021] No. 1), which identified the university as "Jiangsu Smart Campus Demonstration College". Only more than five higher vocational colleges in the province were selected. The university has formed a "1+2+3+N" smart campus architecture, which is supported by one platform, led by two centers, covered by three dimensions, and integrated with N system applications. Wuxi C School has promoted the innovation of wisdom platform learning with practical actions, which will also drive the development of regional education information. Taking the actual teaching results as the starting point, this study takes the wisdom platform of C School in Wuxi City, Jiangsu Province as the research object, analyzes the impact of wisdom platform teaching on students' learning outcomes from multiple dimensions, and finally puts forward suggestions based on the research results and summarizes the direction of future reform of wisdom platform teaching.

CONSTRUCTIVISM LEARNING THEORY

To build the socialist learning theory, learning is a process of learners' autonomous learning, the essence of knowledge is not the teacher professor scholars directly, but in certain cases, with the help of others to help learners, teachers provide study materials, create a good learning environment for students, the learning environment of the four elements including "situation", "construction of meaning", "conversation" and "collaboration"[10]. This structure can be fully embodied in the teaching of the "wisdom platform". Students log in to the student end of the platform through mobile phones or other mobile devices to conduct independent learning and actively build knowledge. Therefore, constructivist learning theory provides theoretical support for the study of "wisdom platform" teaching[11].

“DIGITAL” LEARNING THEORY

With the rapid development of educational information, digital learning has become an inseparable part of people's learning style. Digital learning theory refers to the process of learning in a digital way by using digital learning resources in a digital learning environment[12]. Digital learning theory mainly contains three basic elements: digital learning environment, digital learning resources and mathematical learning methods. Digital learning environment, multimedia classroom, digital network, smart classroom, smart campus and other hardware facilities, for learners to provide a variety of learning resources, the use of learning software platform

and students to build knowledge, discuss and communicate.

THEORY OF MOTIVATION

Motivation theory refers to activities such as examinations, tests and discussions that can stimulate learners' learning motivation. When most learners receive favorable comments, their learning enthusiasm will be improved, whereas when learners receive poor comments, their learning enthusiasm will be reduced[13]. Is get achievements, while the latter is due to produce frustration, measuring results give learners learning feedback, the feedback of results to enhance the learning results and learning result, at the same time also strengthened the students' learning motivation. As a result, the theory for wisdom platform teaching effect on student learning research provides theoretical support[14].

RESEARCH QUESTION

To sum up, the main issues discussed in this study are as follows

Does the usability of the wisdom platform have an impact on students' learning outcomes (learning satisfaction, learning motivation)?

Does the stability of the wisdom platform have an impact on students' learning outcomes (learning satisfaction and learning motivation)?

Does the cognitive usefulness of the wisdom platform have an impact on students' learning outcomes (learning satisfaction, learning motivation)?

Does the accessibility of wisdom platforms have an impact on students' academic performance (achievement goals, learning strategies)?

Does the stability of the wisdom platform have an impact on students' academic performance (achievement goals, learning strategies)?

Does the cognitive usefulness of the wisdom platform have an impact on students' academic performance (achievement goals, learning strategies)?

RESEARCH FRAMEWORK

In order to better evaluate the relationship between wisdom platform and students' school performance, this study adopts Partial Least Square structural equation modeling (PLS-SEM)[15], which is called "soft model". PLS was proposed by Swedish scientist Wood et al. Causal modeling method, which is mainly applied to multi-dependent and multi-independent variables, is a new iterative estimation method that integrates multiple linear regression, principal component analysis, and canonical correlation analysis. Main features: There is no requirement for normal distribution of data, only small sample data analysis is required, suitable for exploratory research, fast convergence, high computational efficiency and prediction accuracy, suitable for large and complex structural equation models. The PLS method is adopted to construct a structural equation model of the factors influencing the learning effectiveness of wisdom platform teaching on students. The model is constructed from the characteristics of a wisdom learning platform and students' school effectiveness. Therefore, the relationship between latent variables in this model needs to be explored and verified. Secondly, the number of effective samples collected in this study is small. Finally, the model of the influence of wisdom platform teaching on students' learning outcomes proposed in this study is a complex structural equation model containing multiple research variables. At the initial stage of the study, the author extracted three characteristics

of the wisdom platform based on literature review, namely, ease of use, stability and cognitive usefulness. As well as four factors that may influence the learning effect of wisdom platform teaching on students, they are: students' achievement goal, learning strategy, learning motivation and learning satisfaction. The above four factors all have an impact on students' learning outcomes. On this basis, the author proposes the structure of this research as shown in the figure below.

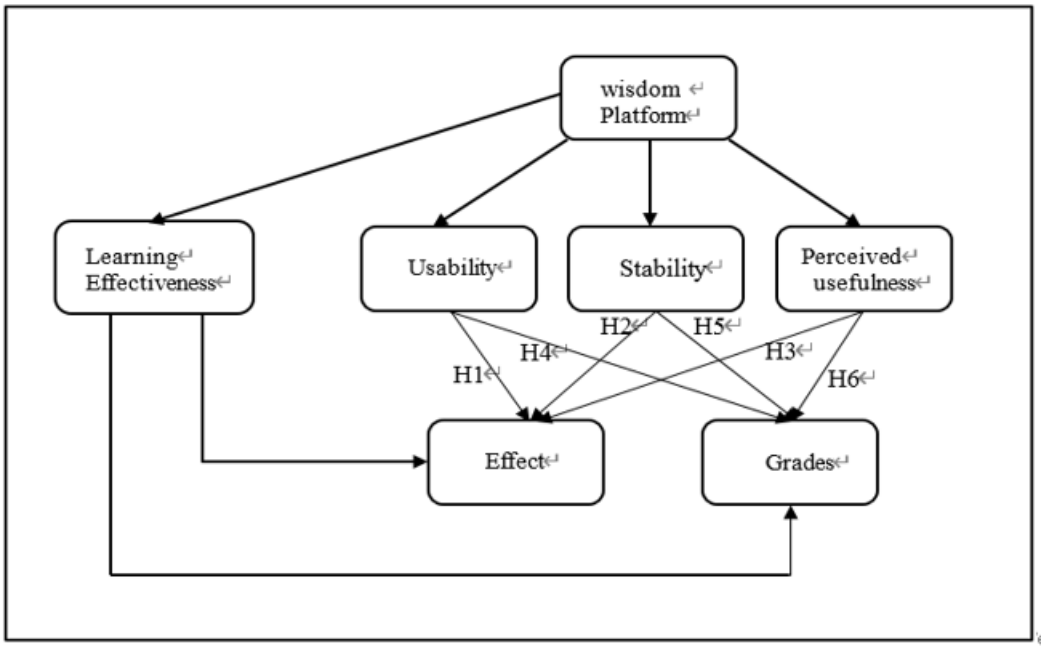

Fig.4. Conceptual Framework

CONCLUSIONS

The emergence of a wisdom platform provides a new direction for the reform of classroom teaching in higher vocational colleges. Innovate teaching methods, optimize teaching resources, expand teaching space, meet the learning needs of all kinds of students, and improve teaching quality. Higher vocational colleges are an important way to cultivate application-oriented talents and play an irreplaceable role in making up the talent gap in social and economic development. Therefore, the use of wisdom platform teaching is of great practical significance to strengthen the amount of classroom teaching in higher vocational colleges and improve the comprehensive learning level and ability of higher vocational students. The COVID-19 outbreak in 2019 has disrupted the order of offline classes, while the birth of wisdom platform has made up for a series of teaching problems and solved the teaching problems of global schools. In the future, the development trend of wisdom platform teaching will certainly cultivate more wisdom talents.

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