

The influencing factors of intelligent technology in teaching activities

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Abstract: Under the new vision of education modernization 2035, schools, teachers and students are facing the challenge of educational and teaching environment reform, and it is urgent to explore new educational and teaching modes. As an important carrier to put forward higher requirements for education informatization, intelligent education and intelligent classroom emerge at the historic moment. In this context, teachers' intelligent classroom teaching skills become the backbone of implementing the reform of education and teaching mode. Therefore, this paper aims to explore the characteristics of junior high school teachers' behavior towards intelligent classroom teaching and the important factors affecting teachers' use of intelligent classroom teaching, which is of great practical significance for promoting the achievement transformation of education informatization.

1. Introduction

With the development of intelligent technology, its influence on various fields and penetration is more and more extensive, including the field of education. The application of intelligent technology brings many advantages to teaching. Since the implementation of the program of medium - and long-term education reform and development in 2010, China has basically covered intelligent educational infrastructure. Since the introduction of intelligent technology in the classroom, the classroom forms more diversified. From the previous chalk-board teaching, to slide projection, courseware demonstration teaching, and then to micro class, flipped classroom, MOOCs and so on, the integration of intelligent technology and education is getting closer and closer. In 2018, the Ministry of Education issued the "Education Intelligence 2.0 Action Plan", which emphasized the need to conduct in-depth research on intelligent education and apply it into practice. We should promote new teaching concepts, new education models and reform teaching methods. In 2019, China's Education Modernization 2035 once again calls for smart campus, smart teaching, smart management and other measures to improve the process of intelligent education. The new generation of intelligent technology has brought new changes to the classroom. Based on various intelligent information equipment as hardware, intelligent education uses big data, Internet of things, AI and other technologies to make classroom decisions through data, improve teaching methods by technology, monitor students' classroom behaviors, etc. It changes the traditional classroom teaching mode. The proposal of intelligent education has provided the east wind for the reform of teaching idea and teaching method, but it is also a challenge for current teaching. Therefore, the impact of educational intellectualization on the traditional

teaching model, whether the hardware and software equipped will have other impacts on students, teachers' opinions and recognition of the new intelligent teaching model, their adaptability to intelligent education and whether they can make good use of intelligent technology to assist teaching in the classroom are all issues that need to be studied in the process of educational intellectualization.

2. Objectives

By referring to the literature of domestic and foreign scholars using TAM model to study the internal mechanism of the model related to technology acceptance, clarify the influencing factors of technology acceptance such as teachers' acceptance of intelligent teaching behavior, and find out the control variables and regulating variables affecting junior middle school teachers' acceptance of intelligent teaching.

Based on the above theoretical analysis, combined with the current situation of the actual research area and the research object, the influential factor model of junior high school teachers' intelligent teaching behavior is constructed, the variables are defined, and the model hypothesis of this study is made.

Based on the previous maturity scale, combined with the typical characteristics of junior middle school teachers of the research object, the intelligent teaching environment of the research object and related research reports, modified and designed the variable measurement questionnaire based on the model hypothesis.

Collect the questionnaire data, and use Stata.15 to conduct structural equation analysis, model fit, path analysis and heterogeneity test, etc., to verify the rationality of the model and make judgments on the hypotheses, and draw empirical investigation conclusions by combining interviews.

Based on the research conclusions from the data analysis, it will provide the local educators and schools with suggestions on how to improve teachers' intelligent teaching behavior.

3. Literature Review

From the review of domestic literature, it can be found that Chinese scholars' research on intelligent teaching gradually began to rise after 2010, and the number of publications gradually increased after 2015, but it is still in the climbing stage^[1]. In addition, using "intelligent teaching" as the keyword, the author conducted fuzzy search again in the core journals and CSCI/CSCD journal database, and found 1208 literatures in total^[2]. Since 2000, domestic scholars began to pay significant attention to the research on "intelligent teaching", and the literature growth accelerated after 2010, with 2,497 master and doctoral theses searched (the data is up to December 31, 2022)^[3]. It can be seen that at present, domestic scholars pay more attention to "intelligent teaching", but pay less attention to "intelligent teaching", and "intelligent teaching" has overlapping research scope, and "intelligent teaching" and "intelligent teaching" has not been clear and unified concept distinction, the research on intelligent teaching is still in the exploration stage^[4].

Foreign literature authors searched more than 1380 and 370 relevant literatures in all databases and core collection databases of web of science with keywords such as "Intelligent teaching" (data up to December 31, 2022)^[5]. From the literature review, it can be found that foreign scholars started the research on intelligent teaching earlier^[6]. Since 1996, some scholars began to pay attention to and study this issue successively. So far, the research has been more in-depth and the attention content is more detailed^[7].

4. Conceptual Framework

4.1 Model construction

In essence, the intelligent teaching behavior of junior middle school teachers is the process of accepting intelligent technology in education. In this study, the technology acceptance model (TAM) is taken as the basic framework to build the research model. Combined with the TRA and TPB models, aiming at the characteristics of junior middle school teachers and the objective factors such as working environment conditions, Literature review was carried out based on the relevant researches in the field of teacher informatization based on technology acceptance model in recent years, and other variables were introduced in the interviews with some teachers to further improve the model^[8].

Many foreign theoretical models have introduced subjective norms, which are considered to be one of the factors affecting usage behavior. In the actual teaching process, teachers are faced with the influence and pressure of many external environments. For example, in the tide of educational reform of intelligent education, schools fully cover the network environment, update and purchase advanced teaching equipment in large quantities, schools advocate teachers to actively explore and study innovative teaching models, and the society vigorously advocates the development of intelligent education. Regarding the behavior of leaders, teachers and students around them, teachers can feel real pressure on whether to adopt information-based classroom teaching and whether to further integrate intelligent technology with practical teaching^[9].

In addition, through literature review and communication with the pioneer teachers of intelligent teaching, it is also found that in the actual teaching process, teachers are concerned about the hardware and software equipment suitable for intelligent teaching into the classroom. Many teachers worry about the influence of the equipment on the classroom, and worry about students using electronic products in the classroom to distract their attention, affect the classroom order, and even fight. Damage facilities and equipment, etc. These concerns are classified as "risk pressure considerations" in this study, and they are introduced as one of the variables in this paper^[10].

After Davis proposed TAM model, many scholars found that the variable of attitude could not explain usage intention well based on the model and supported by empirical data, which was also confirmed by Davis in his own relevant research, so it was deleted in the subsequent model revision. For this reason, the variable "attitude" is not included in the variables of this study for analysis^[11]. At the same time, the research believes that there may be some differences between teachers' "behavioral intention" and "actual behavior", so two variables in the original model are retained, and the result variable is "use behavior", to verify whether each factor in the model can affect "use behavior" and to what extent.

To sum up, this paper puts forward the research model as shown in the Figure 1:

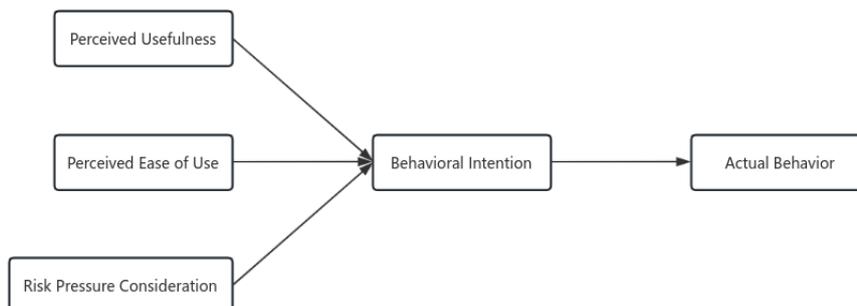


Figure 1: Model assumptions

4.2 Variable selection

Result variables:

(1) Actual behavior

As the result variable of TAM model, actual behavior (USE) is defined as the actual behavior of an individual adopting a specific intelligent technology. This study defines "actual behavior" as: actual behavior of junior middle school teachers in intelligent teaching^[12]. Taking "actual behavior" as the final result variable, the mechanism of action between other variables and actual behavior is studied.

Intermediary variables:

(1) Perceived usefulness

Perceived usefulness (PU) was first proposed by Davis in TAM model, which refers to the degree to which an individual thinks he can improve his own work effect by using certain intelligent technology in his self-cognition, and is the core variable of TAM model^[13]. Its influence on behavioral intention has been proved by many scholars, such as Liu Pin and Xu Meidan.

(2) Perceived ease of use

Perceived ease of use (PEOU) refers to the degree to which an individual thinks it is easy to use and master a certain intelligent technology from the level of self-cognition. Sui Xinghua proved in the empirical study on the factors influencing the intelligent teaching ability of college teachers that perceived ease of use had a significant positive impact on the perceived usefulness of intelligent teaching, and also directly had a significant positive impact on the intelligent teaching intention of college teachers.

Adjust variables:

(1) Risk and pressure consideration

The variable risk pressure consideration (RS) is introduced on the basis of previous research. Through reading the research report on intelligent teaching, it can be found that teachers said: "long-term use is bad for students' eyesight; Students tend to be distracted "; "In the process of learning, waste a lot of time"; "Compared with traditional classrooms, intelligent teaching also has problems such as equipment management and students' adaptability to different teaching modes. Students' self-discipline directly affects the classroom efficiency when students hold various hardware devices in the classroom^[14]. Students with poor self-discipline will be attracted by these hardware devices, and the classroom effect will be worse than the traditional classroom. The management difficulty of intelligent teaching is also a problem ". It can be concluded that the more teachers consider the risks of intelligent teaching, such as discipline problems and classroom efficiency problems, the weaker their behavioral intention of intelligent teaching will be.

4.3 Hypothesis

In this study, if teachers perceive intelligent teaching behavior can help them improve teaching effect and teaching performance, they are more likely to have the intention of continuous use. Therefore, this study defines "perceived usefulness" as the extent to which junior middle school teachers believe that intelligent teaching behavior is conducive to classroom teaching, and makes the following assumptions^[15]:

H1: Perceived usefulness has a significant positive impact on usage intention, that is, the more useful junior middle school teachers think it is for intelligent teaching behavior, the higher their usage intention will be.

In actual teaching, if a new teaching mode requires a high level of intelligent technology, the teacher will think it is very difficult and thus feel that the effort and gain do not match, and will think that the behavior is not very useful. Or if the teacher perceives that it takes a lot of energy to master

intelligent teaching technology, the teacher may be reluctant to adopt intelligent teaching behavior. Therefore, this study defines "perceived ease of use" as the degree to which junior high school teachers think intelligent teaching technology is easy to use, and makes the following assumptions^[16]:

H2: Perceived ease of use has a significant positive impact on perceived usefulness, that is, the higher the perceived ease of use of technology related to intelligent teaching, the more they will recognize the usefulness of intelligent teaching.

H3: Perceived ease-of-use has a significant positive impact on usage intention, that is, the simpler and easier the technical operation related to intelligent teaching is considered by junior middle school teachers, the stronger their continuous intelligent teaching intention will be.

Wu Shuping found a negative correlation between the variable "risk pressure consideration" and the promotion of related intelligent teaching facilities and equipment in her research on the environment of colleges and universities. Therefore, in this study, "risk pressure consideration" is defined as the degree of concern about risks that junior middle school teachers may have when carrying out intelligent teaching behaviors, and makes the following assumptions^[17]:

H4: The consideration of risk pressure has a significant negative impact on the use intention, that is, the higher the consideration level of junior high school teachers on the risk pressure of intelligent teaching behavior, the lower their use intention.

5. Research Methodology

5.1 Research Instruments

Study the factors influencing the intelligent teaching behavior of junior middle school teachers, analyze the collected samples through Stata.15, test the model and its hypothesis and draw conclusions.

5.2 Data Collection

In this study, the teaching and research director of each school sent the questionnaire to the teachers group of the school, and the teachers filled in the questionnaire voluntarily. A total of 236 answer sheets were collected, among which 232 effective answer sheets were recovered after screening, such as short answer time and identical answer items in all test sheets, with an effective rate of 98.3%.

In order to make up for the limitations of the questionnaire survey, this article conducted structured interviews with 11 teachers in A district of Shanghai who have experience in using intelligent teaching. Through interviews, we can gain a deeper understanding of the main influencing factors of intelligent teaching behavior among junior high school teachers, as well as the reasons behind these factors, in order to support the survey results and make improvement suggestions more scientific and persuasive.

5.3 Data Analysis

In this study, SPSS.22 was adopted for statistical analysis. First, descriptive statistics were conducted on the basic information of the questionnaire.

As can be seen from the above Table 1, the ratio of male to female is about 3:7, and there are more female teachers, which is also in line with the current situation of the ratio of male to female teachers, showing fewer male teachers and more female teachers, meeting the requirements of this study. In terms of educational background, 95.7% of the students have bachelor's degree or above, and only 4.3% have junior college degree, which is in line with the current status of teachers' educational background. In terms of teaching years, teachers with more than 10 years of teaching years filled in

the questionnaire the most, followed by those with 1-5 years of teaching years, and teachers with 6-10 years of teaching years were relatively few, which may be due to the fact that A large number of public junior high schools were built in District A in recent years, so the teaching years showed a large quantity distribution. In terms of professional titles, it is still due to the fact that there are more newly built schools in District A in recent years, and most teachers are new teachers without professional titles. Therefore, teachers of grade three, grade two and grade one are evenly distributed, while senior teachers are relatively few. In addition, the number of teachers who filled in the questionnaire covered all junior middle school teaching subjects, among which the number of teachers in the main subject was high, and the proportion was consistent with the number of teachers in different subjects in the whole district.

Table 1: Descriptive statistical analysis

title	option	Frequency	percentage (%)
gender	male	67	28.88
	female	165	71.12
Educational background	Junior college	10	4.31
	undergraduate	152	65.52
	postgraduate	70	30.17
Teaching years	1-2 years	53	22.84
	3-5 years	64	27.59
	6-10 years	29	12.5
	More than 10 years	86	37.07
Professional title	Third-level teacher	78	33.62
	Second-level teacher	65	28.02
	First-level teacher	70	30.17
	Senior teacher	19	8.19
Subject taught	Chinese	37	15.95
	mathematics	38	16.38
	English	34	14.66
	daoism	13	5.6
	history	17	7.33
	organism	13	5.6
	geography	8	3.45
	physics	26	11.21
	chemistry	10	4.31
	other	36	15.52
Total		232	100

According to the fitting results, we can carry out corresponding path analysis on the latent variables in the research model according to the model assumptions. The influencing factor model of intelligent teaching behavior of junior middle school intelligent teachers based on the technology acceptance model contains four latent variables, and the relationship between these latent variables is analyzed through SEM.

As can be seen from the above Table 2, all P values of H4 are >0.05 , indicating that this hypothesis is not valid, that is, the consideration of risk pressure has no significant influence on the use behavior. Although there is no significant effect between the variables, the study can still analyze the result and

explain the reason for its insignificance.

Table 2: Path analysis results

path	Standardized regression coefficient	SE	CR	P	Correspondence hypothesis	Whether the hypothesis is true
Perceived usefulness → use behavior	0.293	0.063	4.568	***	H1	Yes
Perceived ease of use → perceived usefulness	0.19	0.048	3.492	***	H2	Yes
Perceived ease of use → Usage behavior	0.398	0.058	5.896	***	H3	Yes
Risk pressure considerations → use behavior	-0.025	0.05	-0.546	0.585	H13	No

Note: * means $p < 0.05$, ** means $p < 0.01$, *** means $p < 0.001$

The other hypotheses H1, H2, and H3 are all valid, and the standardized regression coefficients are positive, indicating that the above path hypotheses have significant positive influences.

H1 path coefficient is 0.293 ($P < 0.001$), indicating that junior middle school teachers think intelligent teaching is helpful to teaching, and the more they use it.

H2 path coefficient is 0.19 ($P < 0.001$), indicating that the simpler junior high school teachers think intelligent instructional related technologies are, the more useful they think intelligent instructional related technologies are.

The H3 path coefficient was 0.398 ($P < 0.001$), indicating that the higher the perceived ease of use of intelligent teaching technology, the more intelligent teaching behavior of junior middle school teachers.

6. Results and Discussion

6.1 Perceived usefulness of intelligent technology has a positive impact on teaching behavior

The research shows that perceived usefulness positively affects teachers' use behavior of intelligent teaching, and the path coefficient is 0.19 ($P < 0.001$), which is consistent with a large number of previous studies. This result is also supported in the interview. Teacher WL said, "Through the study and use of intelligent teaching during this period, I think intelligent teaching is indeed a very good tool to assist teaching. It has advantages that traditional teaching does not have in timely feedback, data analysis, hierarchical teaching and so on. It can help teachers to analyze students' mastery and existing problems more intuitively. At the same time, intelligent teaching is also very convenient for students to show themselves.

Teacher HZ said, "After using intelligent teaching for this period of time, I feel that intelligent teaching mode has a great positive impact on students' learning. First of all, the random selection

function on the intelligent teaching platform improves the fairness of the class and improves the participation of students in the class. The class is no longer only for those who understand it. Instead, everyone has equal opportunities and everyone has needs to master knowledge. At the same time, the time limit function and timely feedback function of intelligent teaching also make the classroom more efficient and more targeted; Group push makes the classroom capacity larger, and different levels of knowledge can be acquired for different levels of students^[18]. In addition, when using intelligent teaching, I also found that students' interest in learning is quite high, especially in group cooperation, many students will discuss and learn from each other actively in order to gain more points in the group." If teachers think intelligent teaching is useful, they will use more intelligent teaching behavior, which makes requirements on the related functions of intelligent teaching, how to meet the teacher's expected standards. If the teacher thinks that the intelligent teaching equipment is easy to use and can assist classroom teaching, the teacher will be willing to apply it in the actual classroom teaching.

6.2 Perceived ease of use of intelligent technology has a positive impact on teaching behavior

This study shows that perceived ease of use has a positive effect on teachers' intelligent teaching behavior and perceived usefulness, and its path coefficients are 0.398 ($P < 0.001$) and 0.19 ($P < 0.001$), respectively. This result is consistent with other relevant research conclusions. In the interview, Teacher YX also said, "Various small functions are simple and easy to operate. This intelligent teaching software platform also has many small functions that are very practical, such as timer, scoreboard, drawing and selective drawing. These functions activate students' interest in learning and make them participate in class more efficiently. Therefore, I will use these functions in class to arouse students' enthusiasm in learning." This indicates that if teachers think the software and hardware related to intelligent teaching are easy to operate and use, they will be more willing to use them for classroom teaching, and they will also be more cognizant of the usefulness of intelligent teaching mode.

6.3 Consider that risk stress of intelligent technology has a negative impact on teaching behavior

This study found that the risk stress consideration had no significant effect on teachers' intelligent teaching use behavior. Through literature review, it is found that scholar Li Jing also reached the same conclusion in the acceptance degree of teachers to a certain teaching wisdom platform. The reason may be that nowadays it is an information age, and students' use of computers, tablets and mobile phones has become a daily behavior of life. Therefore, in the classroom, the short-term use of tablet and other hardware, the correct way of use and grasp of the use of time will not affect the health of students, but for students worried about the use of hardware equipment and distracting attention, equipment damage, students will not use relevant equipment or the use of equipment will cause difficulties in class management, etc^[19]. There is no hesitation to make teachers shrink from intelligent teaching behavior, which indicates that teachers have high ability to control their own curriculum teaching and manage students' classroom discipline.

7. Conclusion

Based on a large number of literature studies and the theoretical basis of TAM model, this study builds a model of the factors affecting the intelligent teaching behavior of junior middle school teachers and puts forward hypotheses. Secondly, relevant measurements were made on influencing factors, model test and teacher interview were conducted by SEM, and the following conclusions were drawn:

Teachers recognize the intelligent teaching model, affirm its value and the convenience and

usefulness it brings to teaching, and believe that this model can be helpful to classroom teaching or their own career development, so teachers will be more willing to use this model for teaching. In addition, if teachers perceive that it is very easy and simple to use intelligent teaching for subject teaching, the related software and hardware functions are convenient to operate, the requirements for information technology are not high, it is easy to master and can be flexibly applied in classroom teaching, teachers will use this teaching mode more frequently.

8. Research Benefits

The technology acceptance model is recognized as one of the best models for individual's interpretation of intelligent technology acceptance behavior, and it is a robust, reproducible and well-expanded model. In recent years, many scholars in the field of education have studied many factors related to informatization according to this model. Due to the particularity of the field of education, Many scholars have combined TAM model with other conclusions to improve the explanatory power of the model and have a deeper understanding of the relevant factors affecting the promotion and development of the field of intelligent education^[20]. Based on this, this study takes TAM model as the basic model and carries out empirical research from the perspective of junior middle school teachers to understand the influencing factors of junior middle school teachers' intelligent teaching behavior. On the basis of TAM model, the external variables are further enriched and improved by comprehensive literature research, in order to ensure the scientific nature of the model and improve the explanatory power.

9. Suggestion

9.1 Create a high-quality intelligent teaching environment

In order to promote the development of intelligent education and encourage teachers to use intelligent teaching mode, relevant departments such as the Education Bureau of the urban government and schools themselves should invest special funds in the construction of intelligent teaching environment. First of all, in the teaching environment such as schools, classrooms should ensure that the most basic facilities and equipment is stable and smooth; For example, the wired network of each classroom is fast, no delay, unlimited network coverage of the whole school, and the quality of audio-educational equipment is good. Secondly, a batch of high-quality intelligent teaching hardware and software equipment should be selected. During the selection, the functional demands of teachers for intelligent teaching can be fully investigated, and the opinions of front-line teachers can be heard^[21]. The hardware and software equipment related to intelligent teaching that can meet or basically meet the teaching needs of teachers can be purchased with the main purpose of meeting the classroom needs of teachers, and comprehensively introduced. The above suggestions aim to improve the enabling conditions of teachers' use of intelligent teaching. Enabling conditions have a positive impact on perceived usefulness, which is one of the important bases for teachers to carry out intelligent teaching behavior.

9.2 Carry out intelligent teaching display and competition

It is found in the research that subjective norms will have an important impact on teachers' intelligent teaching behavior, which mainly refers to the "social pressure" considered by teachers, such as the expectation or use degree of leaders, colleagues and students on intelligent teaching behavior. At the leadership level, leaders' expectation of their own intelligent teaching effect can drive teachers to explore and study, and leaders' praise of teachers' intelligent teaching behavior can make

teachers more satisfied. At the level of colleagues, the school or district education and scientific research development center can hold intelligent teaching quality class competition, demonstration class display and other activities timely. The holding of the activity has two aspects of influence. First, the holding of quality class competition and demonstration class exhibition can enable teachers who are proficient in using intelligent teaching mode to show their achievements of classroom reform in the competition, enhance their sense of achievement, and continuously accumulate and enrich their own intelligent teaching experience in the process of competition and demonstration, so as to continuously improve and optimize their own intelligent teaching behavior. Second, the teaching effect brought by the intelligent teaching mode is really presented in the classroom when other teachers are watching the competition and watching the lesson. Teachers can have more thinking about the intelligent teaching mode^[22]. At the same time, when seeing colleagues and peers on the stage have skillfully operated the functions related to intelligent teaching equipment, they can play a certain role in promoting themselves, stimulate teachers to learn more and improve their own intelligent teaching behavior.

9.3 Develop incentive plans for intelligent teaching

The research shows that performance expectation is a very important factor in teachers' use behavior of intelligent teaching, and the path coefficient is very high. Herzberg's two-factor theory points out that motivation is a very important factor that makes people more satisfied. Individuals will work harder and be more satisfied with their behaviors if they are affirmed in the work environment and there are external incentives. According to the above theories, if teachers are encouraged to use intelligent teaching behavior, they will be more willing to change their own classroom teaching behavior and adopt intelligent teaching mode more often. According to the research results, if the school gives some incentive policies to teachers or subject groups that actively use intelligent teaching behavior, such as reducing additional administrative affairs, adding bonus points to professional title assessment, giving pioneer teacher teams outside training opportunities for intelligent teaching forums and discussion activities, and practical research funds, etc^[23]. After detailed assessment, the District Education and Scientific Research Center gives the pioneer teachers of intelligent teaching model relevant honorary titles and certificates of competition and demonstration courses, which can well motivate teachers to further study and explore the intelligent teaching model and promote the continuous improvement of teachers' information literacy and relevant abilities.

9.4 Increase training on the use of intelligent teaching mode

After completing the investment and construction of the first step of facilities and equipment, relevant departments such as the District Education Bureau, the District Education and Scientific Research Development Center and schools should carry out the publicity and operation training on the intelligent teaching mode. The use of training should cooperate with the company that provides intelligent teaching hardware and software equipment. It is better to carry out on-campus training. First of all, the whole school will conduct unified training. According to the development background of intelligent teaching software and hardware, the overall introduction of relevant software will help teachers realize specific classroom needs, and how to use intelligent teaching software and hardware to assist classroom teaching. Secondly, according to the specific operation method of hierarchical training by age group, the school teachers are divided into young teachers and old teachers. For the young teachers, the application ability of intelligent technology is generally strong, so the training should be concise and comprehensive, improve the difficulty of technical training, so as to stimulate the curiosity of young teachers and explore the psychology of unknown things, so that young teachers

can be introduced into the training. In addition, training should stimulate the interest of teachers in exploring relevant software and hardware operations, because for elderly teachers, they have become accustomed to traditional teaching modes and methods. They are afraid of new teaching modes, especially those combined with intelligent technology. Therefore, in the training, they should first reverse the fear of the elderly teachers and show their advantages. How can the insurmountable difficulties in traditional teaching be solved by modern facilities and equipment? In operation training, the simplest and most basic training should be started and practical training should be carried out. Elderly teachers should be allowed to operate by themselves in the training process, and timely feedback and encouragement should be given after successful operation, so as to improve their confidence in the application of intelligent technology, so that the elderly teachers will gradually change their ideas and apply the intelligent teaching model to the classroom. Then, training can be carried out for the same subject group. Teachers in the same subject group have almost the same functional requirements for intelligent teaching in classroom teaching. Targeted training can be carried out according to the different functions required by different subject groups, and a lesson example can be shared on the implementation of intelligent teaching mode by teachers in the subject group. Finally, individual training can be conducted. For teachers with special functional needs or teachers who still have difficulty after unified training, individual training can be conducted at this time, so as to ensure that each teacher can be familiar with the functional operation of hardware and software related to intelligent teaching.

9.5 Timely Tracking Guidance

After the intelligent teaching model is applied in the classroom, the teachers may have various situations and problems when they are actually applied in the classroom. At this time, relevant responsible groups, such as the product company, are required to provide complete after-sales service. For the problems of teachers in class, they should be timely solved on site or through network communication and remote assistance. At the same time, the unified collection of teachers' problems can improve relevant materials and make them into problem management manuals, or make problem solutions into small videos and make video tutorials for problem solving, which can save a lot of time for question answering service, and teachers can know how to find out when they encounter problems. To solve problems in time is one of the important factors to improve the conditions for teachers and their recognition of intelligent teaching. Product companies should do a good job in this tracking and guidance service, so as to help teachers better carry out intelligent teaching mode teaching.

9.6 Improve the functions of intelligent teaching software and hardware

After using the intelligent teaching model for a period of time, teachers will have a detailed and comprehensive evaluation of the model or related hardware and software equipment functions, and have their own ideas on some functions that cannot be realized and optimization suggestions. In view of this situation, the school or the district education and scientific research development center should do a comprehensive survey to investigate the problems in the intelligent teaching facilities and equipment introduced by the school in the region, and what are the functional development suggestions and optimization plans. After collecting the opinions of front-line teachers, we will communicate with the research and development company whether we can optimize related products according to the opinions and suggestions of teachers, or develop new auxiliary teaching functions required by teachers. At the same time, relevant departments can also find more supplementary equipment with teachers' suggestions and ideas, and constantly enrich and improve the hardware and software configuration of intelligent teaching. Regardless of the method, the purpose is to make teachers think that intelligent teaching related equipment is useful and easy to operate, and can really

assist classroom teaching. When teachers think that intelligent teaching mode technology improves teachers' intelligent teaching behavior.

9.7 Enhance technical confidence

In the study, it is found that the average score of teachers in the measurement of the influence factor of computer self-efficacy is 3.76, indicating that teachers' evaluation of their own computer self-efficacy is only slightly above the medium level. For teachers with less than 10 years of teaching experience, the score of the computer self-efficacy is low. In order to improve the intelligent teaching behavior of teachers, one of the important factors is to improve the computer self-efficacy of teachers, that is, to enhance technical confidence. The enhancement of computer self-efficacy is mainly inspired by the drive of teachers. The explanation of drive in psychology is that it refers to the state of inner activity of an individual, which is used to achieve a certain purpose and is stimulated by internal or external factors. Teachers should take the initiative to improve computer self-efficacy in the following aspects:

We should fully realize that the era of intelligent teaching has already arrived, and the reform of information-based classroom teaching will be the trend of The Times. If we do not take the initiative to improve the application ability of informationization and reform the teaching concept, we will fall behind in intelligent teaching. Therefore, we should grasp the nettle, actively learn relevant technical abilities, and set small tasks in the learning of intelligent teaching hardware and software equipment. After the tasks meet the standards, we can improve our sense of computer self-efficacy.

In addition, we should actively participate in intelligent teaching lectures, training, and seminars organized by the school, learn and listen to the experiences of others. We should actively think and practice intelligent teaching models, set goals, apply intelligent teaching to our teaching practice, and gradually improve our computer self-efficacy.

After putting it into practice, they should motivate themselves. In the practice process of intelligent teaching model, feedback from students, encouragement from peers and affirmation from the school are all important encouragement for the reform of their teaching behavior. Teachers should establish sufficient self-confidence, so as to promote themselves to be more active and improve their intelligent teaching behavior.

10. Research limitations

In general, this study pays more attention to theoretical research and follows the principle that theory guides practice. The depth of practical research is not enough, and more attention should be paid to students in the future. However, this study lays too much emphasis on teachers, especially their acceptance of intelligent teaching and intelligent teaching behavior.

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