

Research on the Innovative Development of University Teachers' Smart Education Ability

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Abstract: At present, with the rapid development of social informatization, it is the trend and inevitable requirement for university teachers to use intelligence in teaching. As an important role in promoting Smart education, teachers' use of Smart education deserves attention. Through questionnaire survey, this paper summarizes and analyzes the use and views of college teachers of different ages on Smart education, finds out the problems and reasons in the process of promoting Smart education, and explores new methods to improve teachers' innovation ability in Smart education.

Keywords: Smart Education; University Teachers; Reform; Policy; Training.

1. Introduction

With the development of social informatization, people's work and production have injected a lot of artificial intelligence. Artificial intelligence can improve efficiency, innovate development mode and give society a new development experience.

In this case, education also needs reform and innovation. As an important force in cultivating talents, young teachers are also the "main force" of educational reform and development. The attitude and ability of these teachers in the application of Smart education play a vital role in the development of education. Therefore, colleges and universities need to give full play to the positive role of teachers, and improve the system and hardware facilities of campus Smart education through the promotion and training of the concept of intelligent learning education.

There are many different views on the understanding of the popular "Smart education." For example, Zhu Zhiting (2012), Ke Qingchao (2013), and Wang Yulong (2013) emphasized that Smart education is a kind of "building" the environment and realizing "intelligent interaction with the surrounding environment." Some studies also show that intelligent education highlights "human Smart beyond artificial intelligence" (yang,2021).

"The process of forming and enriching educational Smart is not only the process of educating students subjectively but also the process of publicizing educational subjectivity (liu,2024).

Generally speaking, Smart education is a comprehensive quality in the field of pedagogy, which transcends knowledge and involves the transformation and application of knowledge.

2. The Problems of Smart Education in Colleges and Universities

There are three main reasons why we should study the improvement of teachers' ability from the perspective of Smart education in the field of education.

First, it is determined by the development trend of our times. The popularity of intelligent devices on the Internet has imperceptibly affected our lives and improved the efficiency of work in the new era. The wide application in the teaching

field of colleges and universities has also become an important standard to measure teachers' teaching quality in the new period.

Second, it is urgent to solve the talent training problem of applying Smart education in colleges and universities. With the development of big data, the Internet, cloud computing and other basic scientific and technological environments, young people's dependence on and use of the Internet has gradually increased. However, in many cases, colleges and universities still follow the traditional education and teaching model. When training young people born in the information age, there are shortcomings in teaching methods.

Third, there is a lack of technology platform. Because of the limitation of funds, technology and the importance of schools, our educational feedback is often after teaching; At the same time, students' achievements are the only indicator to test teaching results, ignoring students' experience in the teaching process. At the same time, the single traditional classroom teaching mode is not conducive to students' learning. All these urgently need to innovate the educational platform, optimize the teaching methods and update the teaching ideas through new educational ideas and platforms.

3. The Research on the Use of Smart Education for College Teachers.

In this study, a questionnaire survey was used to investigate and study the college teachers in Hefei, Anhui Province, where the author works.

In this study, a questionnaire was compiled to investigate the ability of university teachers to use information, and to understand the current situation and views of university teachers on the use of Smart education from the perspective of teachers.

The data were collected by the test paper star system, and some invalid questionnaires were screened out. Then, the data were statistically analyzed by SPSS data processing software, and the preliminary statistical results were obtained.

3.1. The Preparation of the Questionnaire

The compilation of the questionnaire is divided into the following two parts:

3.1.1. Basic Information.

It is mainly the basic information of gender, age, education, working years, and professional titles.

3.1.2. Investigation Contents

This part is the core part of the questionnaire. As for the content of teachers' papers, refer to UNESCO's Framework of Teachers' Information and Communication Ability (2011). The survey includes three aspects: teachers' awareness of using Smart education, their mastery of the knowledge system of Smart education, and their ability to use Smart education.

The choice of multiple-choice questions is adapted from Likert's five-point scale, and a five-point scoring method is used, in which "complete conformity" =5 points, "relatively conformity" =4 points, "average" =3 points, "basic non-conformity" =2 points and "complete non-conformity" =1 point. (Likert. 2021)

3.2. Distribution of Questionnaires

Questionnaires are mainly distributed through "Questionnaires". In the early stage of the survey, a questionnaire was designed on the "Questionnaires" network platform, and a two-dimensional code of the questionnaire was formed. The questionnaire on information education for college teachers was distributed to college teachers and students in major universities in Hefei to fill in.

3.3. Collection and Arrangement of Questionnaires

This time, 3000 questionnaires were collected from teachers' papers, and 2900 questionnaires were finally obtained by screening out the questionnaires that were filled in too short and invalid. The questionnaire recovery rate was 80%, and the recovery rate was good.

Table 1. Statistics of Teachers' Basic Background Information (n = 2900)

BASIC INFORMATION	CATEGORY	FREQUENCY	PERCENTAGE
GENDER	man	1300	44.8%
	woman	1600	55.1%
AGE	<25	50	1.85%
	25—35	1278	44%
	36—45	1000	34.5%
	46—55	488	14.37%
	56—65	73	16.82%
	>65	11	0.38%
ACADEMIC DEGREE	college for professional training	30	1.03%
	undergraduate course	900	31%
	master	1700	58.62%
	doctor	270	9.31%
WORKING LIFE	1-5	800	27.59%
	6-10	711	24.52%
	11-20	1000	34.48%
	21-30	348	12%
	31-40	41	1.41%
PROFESSIONAL TITLE	primary	616	21.24%
	middle rank	1211	41.76%
	Deputy senior	741	25.55%
	Positive advanced	332	11.45%

3.4. The Question the Results and Discussion Part

naire divides the information ability of college teachers into five indicators: basic application, education and teaching, data ability, information exchange, and self-improvement, and their scores are shown in the figure. From the analysis results, teachers in colleges score high in the basic application, while the four indicators of education and teaching, data ability, information exchange, and self-improvement are at the general level, among which the score of data ability is low, only 3.4 points.

In terms of basic application, 80% of teachers can skillfully use information equipment such as projectors, electronic whiteboards, and integrated computers, 90% can skillfully operate basic application software such as Word, PPT, Excel, or WPS, while the proficiency in multimedia processing software (such as Photoshop, Flash, Premiere, EV screen recording, quick editing, etc.) is low, and only 40% of teachers can skillfully apply it. 60% of teachers can skillfully use communication platforms such as Learning Pass, Vocational Education Cloud, and Rain Classroom to carry out

synchronous and asynchronous online teaching. These teachers can also design and implement mixed teaching modes by using information technology in combination with their own teaching content.

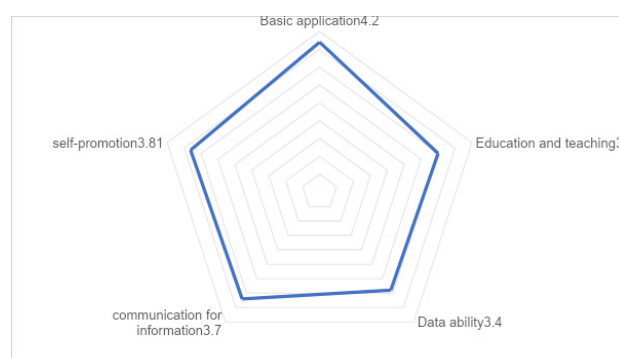


Fig 1. The score of five indicators of college teachers

4. The Problems of Young Teachers' Smart Education in Colleges and Universities

4.1. Traditional Teaching Methods, the Degree of Innovation is Not High

In recent years, the intelligent education platform in colleges and universities is also changing constantly. For example, apps such as Vocational Education Cloud and Rain Classroom have been fully applied in the curriculum, but most of them are for school assessment and unit inspection, or the time in the classroom is very short.

At the same time, in the construction and development of education, the concept of education is still conservative and traditional. They pay more attention to whether the teaching mode can be more abundant and whether the teaching methods can be further explored. However, the innovation mode make the classroom more vivid and more suitable for students' preferences in the new era, which is not very highly praised for the development of personality education.

At the same time, in the age structure of college teachers, young teachers should be the main force in the application of Smart education, but their personal ability is insufficient.

4.2. The Organization of Training Efforts is not Enough

On the one hand, the training of relevant teachers is not enough. In the opinion collection of the questionnaire survey in this study, 60% of the teachers reported that the school arranged less training for Smart education and hoped that the school could arrange some training to improve its ability. " It can be seen that the demand for improving the innovation ability of college teachers does not match the training intensity of the school.

On the other hand, some teachers pay little attention to relevant training. More than 60% of the teachers in the questionnaire reported that they didn't have much time to attend the training because of too much business work. There are also 30% of professors who say that although the school encourages some training, they don't participate much. Not all courses are suitable for online courses.

4.3. The Platform Construction is not Perfect

The survey structure shows that 50% of the questionnaires reflect that colleges and universities have not fully opened the online learning space, and 23% of colleges and universities have not opened the online course platform application. In addition, 40% of universities have not built a big data platform, and 28% of universities have failed to complete the construction of a one-stop information portal.

According to the above data, the overall situation of platform construction is not ideal, and the overall construction needs to be followed up.

In addition, the related platform itself also has some defects, mainly due to the untimely maintenance of the network and the lack of professional personnel to carry out daily maintenance of the Smart education platform. The update speed of software is slow, and the number and types of platforms for Smart education are not rich enough.

5. Specific Measures to Improve Teachers' Innovative Ability from the Perspective of Smart Education

5.1. To Deepen School-Enterprise Cooperation and Strengthen Communication.

5.1.1. Strengthen School-Enterprise Cooperation and Actively Introduce Emerging Technologies.

Based on the actual investigation, it is found that the application of intelligent education platforms and the popularization of knowledge in colleges and universities are far behind enterprises, and some equipment can no longer meet the class needs of professional teachers. The absence of technology has great disadvantages for professional education. On the one hand, the old technical facilities cannot meet the teaching requirements of information-based classrooms. Young people who grow up in the new era will also lack attraction. On the other hand, the absence of the new Smart education platform will also lead to professionals only staying in the traditional teaching mode, which will not be able to adapt to society.

We can try to strengthen communication and exchange through school-enterprise cooperation, introduce the latest smart education application platform, make external technology penetrate into the education field in time, and accelerate the process of building a smart campus in colleges and universities. Through the communication and writing between schools and enterprises, the leading organizations in colleges and universities gradually strengthen their sensitivity to emerging technologies, and can also reach a cooperative relationship between supply and demand with enterprises, open the technology transfer channel in time, and introduce emerging technologies into colleges and universities.

5.1.2. Strengthen Cooperation and Communication, and Exchange and Help Each Other in Many Aspects.

As far as teachers are concerned, they need to be aware of the strength of the team and establish a sense of cooperation. Under the background of Smart education, the important development goal of our education is interdisciplinary and multi-field development. Therefore, young teachers should build a teacher's Smart learning community, under which they can communicate and exchange. On the one hand, they should learn educational methods from experienced old teachers, and at the same time, they should give guidance and answer questions on educational technology for old teachers. On the other hand, we also need to discuss with other young teachers the new opportunities and new problems brought by Smart education.

5.2. Actively Organize Training and Explore Learning Paths.

5.2.1. Strengthen Learning, Training, and Facilities Construction.

Carrying out information technology training can help teachers improve their information ability quickly. In 2020, the Ministry of Education also put forward a series of requirements to strengthen training, carry out online teaching and research, and enhance teachers' awareness and ability to information technology teaching. In the Smart education and training in colleges and universities, we should establish such a consciousness: First of all, we should strengthen the training of information level. In the training, we not only need to learn how to use the new methods of the new technology platform,

but more importantly, we need to deepen teachers' understanding of "Smart education", Technology and consciousness advance simultaneously. Through the establishment of a training organization structure, training leading group and working group, teachers' training on education cloud platform, information equipment and education and teaching application software can improve their information ability quickly in a short time.

5.2.2. Carry out Personal Ability Training for Teachers.

In the information age, young teachers are the group that can use the information-based teaching platform most quickly. As an important force in the development of smart education, they need to improve the quality of technical education and have a perfect ability to use technology in education.

We can create more learning platforms for young teachers by inviting educational experts for counseling, lectures and seminars. You can also carry out online live courses and expand learning in the form of massive open online course; Further help young teachers to establish a good working attitude, improve the skills of Smart education, and inspire them to really think about how to improve their teaching ability; How to better guide students to think positively and provide students with more comprehensive personalized and interdisciplinary education.

Through the training of educational ability, teachers should pay attention to integrating theory with practice in the teaching process, strengthen students' digestive ability, and avoid problems arising from the derailment of students' individual development, such as integrating theory with practice, ideological concepts, and educational concepts. Deviate, guide and promote students' autonomous learning ability.

Yang Xianmin regards big data, the Internet of Things, cloud computing, and ubiquitous networks as the key supporting technologies of smart education (yang,2015). We need to strengthen the operation and learning of the above platforms, be able to use multimedia, new platforms, and other new technical means for teaching, more importantly, deepen teachers' understanding of "Smart education", let them know the importance of Smart education, and finally realize the deep integration of technology operation and educational concept.

5.3. Reasonable Planning, Improve the Career Growth Plan

5.3.1. Install the "Target Driver" for Yourself While Growing up.

Teachers should actively consult teachers and practical experts with rich experience and excellent teaching achievements, actively set their short-, medium- and long-

term goals, and achieve them in a planned and step-by-step manner. Teachers should not only learn from the excellent teachers in this discipline but also learn from teachers in different disciplines and treat and transform the knowledge they have learned according to their own advantages and strengths.

5.3.2. Managing Teachers' Career

From the teacher's point of view, it is the process of planning and designing one's own career, accumulating knowledge, and improving skills to achieve career goals. From the school's point of view, according to teachers' professional types and learning specialties, we should assist teachers in making personalized career plans, encourage teachers to practice in enterprises with problems, tasks, or projects, improve teachers' teaching skills, formulate appropriate school-based training plans, give teachers necessary career guidance, and let teachers find a sense of belonging and accomplishment.

5.3.3. Promote Learning Through Competition

Teachers should dare to participate in various teaching competitions and hone and cultivate their abilities in all aspects through competitions such as courseware making, curriculum design, classroom organization ability, professional development research ability, language expression ability, among others. We must also take the initiative to undertake the counseling task of the student skills competition and strive to achieve excellent results in counseling national and provincial student competitions to promote learning through competitions.

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