Smart Classroom and Its Effective Generation

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Smart classrooms are emerging along with the development of Internet technology. In the Internet era, we must pay more attention to the individual development of students and the development of wisdom. The goal of education has gradually changed from imparting knowledge to cultivating wisdom. In the end, smart classroom is to cultivate students’ creativity and wisdom. This article explains the concept of the wisdom classroom to a certain extent, analyzes the four characteristics of the wisdom classroom, and proposes that the strategy of creating the wisdom classroom: create scenarios to developing multiple wisdom; teach in wisdom and transform learning methods; technical support for effective use of information; and construct dialogue and focus on emotional creation.

Keywords: smart classroom, smart teacher, effective generation

Introduction

In 2018, the Ministry of Education issued the “Action Plan for Educational Information 2.0”, which stated that it is necessary to actively promote “Internet + Education”, adhere to the core concept of deep integration of information technology and education and teaching, and build a network, digital, intelligent, personalized, and lifelong education system (Yu & Wang, 2016). Wisdom education refers to a comprehensive, rich, diversified, and comprehensive education, which mainly includes the education of rational wisdom, the education of value wisdom, and the education of practical wisdom. These three aspects are both different and related to each other, which aim to make the educated person fully explore the essence of their own wisdom and grow into a unity of rational wisdom, value wisdom, and practical wisdom (Li, 2017). The advancement and development of smart classroom is actually the inevitable result of school education informatization focusing on teaching, focusing on classroom, and focusing on teacher and student activities.

Interpretation of Smart Classroom and Related Concepts

With regard to the meaning of smart classrooms, different experts and scholars have given their views from different angles. Some scholars believe that from the perspective of education, the wisdom classroom is a process of cultivating and generating comprehensive quality with “wisdom” as its core. Its basic task is “developing the wisdom of students” instead of a simple “knowledge imparting” process. Some scholars also believe that from the perspective of informatization, smart classrooms are the use of advanced information technology to realize the informatization and intelligence of classroom teaching, and build a smart classroom teaching environment (Qiu, Xie, & Yin, 2015). In the author’s opinion, smart classroom is the use of information technology to create a smart classroom teaching environment. Its fundamental purpose is to promote the transition from “knowledge classroom” to “smart classroom” and realize the intelligent
development of students. The operation of the wisdom classroom cannot be separated from the wisdom teacher. The teaching wisdom of a teacher shows a pattern and state of the teacher, which is the result of the teacher’s repeated accumulation of practical experience, self-improvement, and summary reflection. Smart teachers can give students how to learn smart.

Wisdom classroom must reflect wisdom, innovation, diversity, and emotion in its goals, processes, and evaluation. The traditional teaching concept is represented by Herbart. Later, with the development of humanism and the rise of the school of practical education, the value of teaching tends to be diversified. On the one hand, the acquisition of students’ procedural knowledge and the development of their learning and practical abilities have been valued in classroom teaching. On the other hand, the formation of students’ moral values and emotions has become one of the main goals of teaching.

**The Characteristics of Smart Classroom**

Compared with traditional classrooms, smart classrooms based on dynamic learning data analysis and “Cloud + End” applications have important features and innovative values in technology and teaching applications. The main features are as follows.

**Personality Collaboration**

Smart classrooms should embody individualized education, and provide students with different learning strategies, paths, and learning guidance based on the personality differences of different learners (such as abilities, styles, preferences, and cognition); and on the basis of completing teaching according to their aptitude, attention should also be paid to training students’ ability to collaborate and improve classroom efficiency through the construction of learning communities, etc., so that different learners can achieve the integration of ideas and wisdom, and finally achieve the improvement of higher-order thinking ability and innovative thinking ability (Steve, 2014). You can use the analysis of pre-class assessment and instant analysis in the classroom to achieve the assessment of students’ personalized learning ability, make targeted teaching plans and counseling strategies, and truly realize “one-on-one personalized teaching”.

**Intelligent Tracking**

With the support of big data, learning analytics and other emerging technologies for teaching, smart classrooms should record the learning process of each learner, and analyze the learning effect and evaluation of learners through intelligent mining of educational data (U.S. Department of Education, Office of Educational Technology, 2014). It should include a personal portfolio that records the students’ learning and development. With the help of emerging information technology and various intelligent terminals, the classroom system has surpassed the time and space constraints to achieve more open classrooms and more open classroom activities, which integrates before, during, and after class. All rely on data to speak, analyze, and make decisions based on big data mining of student learning behaviors, use intuitive data to understand students’ level of knowledge mastery, and accurately grasp first-hand academic information from students.

**Enriching Tools**

In the intelligent classroom, learners should be provided with a wealth of corresponding subject learning tools and specific contexts for knowledge construction. These learning tools and contexts are meaningful for both conceptual ontology knowledge, method ontology knowledge, and applied ontology knowledge. Appropriate tools organize the semantic network of the knowledge learned to help students complete the
internalization of knowledge (Ma, 2014). Utilizing intelligent mobile learning tools and application support platforms, the communication and exchange between teachers and students, students and students are more three-dimensional, enabling instant communication and interaction without any obstacles.

**Intelligent Activities**

The selection and establishment of learning activities is the key to the success of smart classrooms. Learning activities should be based on advanced equipment and rich resources, through effective guidance of teaching promoters, and the active participation of learners in scenarios, mobile, and perceptual smart and efficient use of knowledge in problem solving in your learning activities (Tang, Pang, Zhong, & Wang, 2014). Teachers can adopt group-negotiation discussions and collaborative inquiry learning methods. Collaborative group services can help learners with the same learning needs and interests to automatically form a learning community. Teachers can use platform to conduct real-time digital evaluation and timely feedback of.

**Effective Generation of Smart Classroom**

The era of education informatization provides new possibilities for the realization of smart classroom teaching. Its generation can be started from four aspects: creation scenarios, changing learning methods, technical support, and building dialogues.

**Create Scenarios to Developing Multiple Wisdom**

Humanities are difficult to cultivate students’ humanity, aesthetics, and practicality, and it is difficult to develop students’ speech and intelligence. One of the reasons is that teaching is not integrated into the context. The misunderstanding of fragmented teaching is to isolate the words and phrases and turn the knowledge points into fragments. From the perspective of humanities teaching, “situation” is actually an optimized environment based on the actual life of students, using emotional regulation as a means to promote students’ active participation and overall development. Looking at the process, it comes from the situation and is reflected in the situation. From the understanding of meaning, the words and phrases can only better understand the original meaning and deeper understanding of the knowledge only if they return to the situation. In the context of the scenarios, the classroom is no longer a fragmented teaching, but rather the knowledge as a whole, which is conducive to increasing students’ understanding of the text, enhancing self-confidence, and developing their wisdom. Situation is an important resource for students’ cognitive development, and it is a base and place for the generation and realization of knowledge, speech, and cultural meaning. Therefore, context is critical to the creation of smart classrooms. Create a situation, which can be a complete textual situation, or a historical situation, or a real, everyday situation that is closely related to the students’ actual life. Encourage students to learn based on the situation and integrate the knowledge of different disciplines to explore knowledge broader and deeper meaning, so that it is possible to generate sparks of wisdom, develop and forge wisdom (Hu & Qian, 2019).

In the wisdom classroom, our goal is to develop the wisdom of students, not just the pursuit of fragmented knowledge. Therefore, we need to create various scenarios to develop the multiple intelligences of students. Gardner’s theory of multiple intelligences divides intelligence into eight categories: linguistic intelligence, logical-mathematical intelligence, spatial intelligence, physical-kinesthetic intelligence, musical intelligence, interpersonal intelligence, introspective intelligence, and natural intelligence. First, we do not confirm whether human intelligence can be divided into these categories, but Gardner’s theory of intelligence has greatly enriched our knowledge of intelligence, and is no longer simply divided into cognitive, emotional, and motor
skills. We see the multidimensionality of human development. Therefore, in the current era of science and technology, how to maintain competitiveness in the future is to cultivate core capabilities and develop multiple intelligences. In the classroom, we must consciously cultivate students’ multiple perceptions, fully mobilize the enthusiasm of the students as the main body, and give full play to the maximum value of the classroom.

Teach in Wisdom and Transform Learning Methods

One of the reasons for classroom teaching is that it is difficult to cultivate students’ logic, meticulousness, and divergence, and it is difficult to highlight students’ thinking and mentality. The misunderstanding of indoctrination teaching lies in knowledge as the center, focusing only on the students’ mastery of the knowledge, without considering the students’ own thinking. From the perspective of general teaching, guidance is to enlighten students’ inner wisdom and cause students to think further. From the perspective of the process of knowledge production, phenomena can only rise to knowledge through the integration of thinking, and students can internalize into their knowledge only after thinking. From the understanding of meaning, the knowledge obtained after guiding thinking can assist higher-level thinking of thinking. Create your own wisdom. In the guided way, the classroom is no longer instilled teaching, but respects the uniqueness and creativity of students, and inspires students’ minds. Teachers can guide in time to stimulate learning in discussion and interaction. The thinking of living makes its wisdom burst out greatly. In the wisdom classroom, more attention has been paid to the cultivation of students’ thinking and logic. The purpose of the wisdom classroom is to guide students to discover their own wisdom, help students develop their own wisdom, guide students to apply their own wisdom, and cultivate the wisdom created by students. As Lu jie (2004) put it, “In the field of school education, knowledge is seen as the only prescriptiveness and essence of man, and shaping knowledge has long been an ingrained tenet of education” (Lu, 2004). The ultimate purpose of education is not simple to transfer knowledge to the ground, but to open the door of students’ minds and stimulate the infinite creativity of students, so that their abilities and wisdom can be truly improved (Hu & Qian, 2019).

In the wisdom classroom, the status of the teacher becomes dominant and the status of the student becomes the subject. Therefore, the teaching method of the teacher must take into account the laws of students’ physical and mental development, the interests of the students, and the ability of the students to bear. The indoctrination-style education no longer meets the requirements of modern students, and a series of teaching modes have emerged, such as flipped classrooms, personalized learning, Tu-lang-kou teaching mode, Chang-le Second Middle School’s “271 mode”, and so on. In the future, we need to continue to change teaching ideas, reform teaching methods, and fully tap the wisdom of students on the basis of mobilizing teachers’ wisdom, turn “What I want to learn” to “What I want to learn”, turn “knowledge” to” intelligence”, so that students learn to learn in learning.

Technical Support for Effective Use of Information

At present, various online teaching methods, such as “You-Jia-Tong”, “Chang-yan-tong”, and “Xi-bo Whiteboard” come to our classrooms. The application of these teaching methods has overcome the difficulties of traditional teaching students’ lack of concentration and slow entry into the topic. The application of various multimedia methods not only attracted the students’ attention, the students’ ability to learn independently was improved, the subjective status was also fully exerted, and it provided a guide for students to find problems in the classroom, raise problems, and solve problems. Guiding role, our teacher’s role in the classroom is only the role of participation and enlightenment, so that the students’ inspiration and wisdom are well mobilized, and
students’ subjective initiative and creativity will be fully exerted. It can be seen that the application of multimedia methods in the classroom makes our classroom full of wisdom and vitality. Fully mobilized the students’ interest in learning and effectively improved the students’ literacy in all aspects. Our children are amazing about the rapid development of high-tech applications, but they have a history of history. When we are studying subjects that are far away from our lives, we cannot rely on narratives to make students understand, but we need to introduce more auxiliary resources to help us compare and learn. Let students compare with real people and things, with TV scenes, with texts of the same subject matter, and collect materials outside the class. With the help of auxiliary resources, the years of history no longer make us feel far away. Close the distance between history and life, we are aware of learning and independent experience. In this way, our classroom will not be lifeless, but full of wisdom and vitality (Ruan, 2018). The core of smart classroom is student learning. Compared with traditional classroom, student learning process is the process of wisdom generation. Therefore, from a process perspective, student learning should be personalized and creative, and from a result perspective, student learning should be to achieve learning and promote thinking development. Smart classrooms cannot be separated from technical support. From a technical perspective, smart classrooms are tailored to individual learning processes, perceive learning situations, push appropriate content, and provide rich, especially reproducible resources. Collaborative method, intelligently track the learning process and results, and conduct precise analysis, feedback and training according to the learning behavior of students (Li, Wang, Zhong, Fu, & Feng, 2017).

With the rapid development of science and technology today, we have seen the changes that science and technology have brought to education. “Internet + Education” has completely affected teachers and students. In the teaching process, teachers must make full use of technical equipment and timely search for educational information to help students make better use of the information. For example, in order to deepen the students’ intuitive feelings about “The Old Summer Palace” and realize the sorrow of the loss of “The Royal Garden” during the course of studying “The Old Summer Palace”, teachers can use multimedia equipment to find a virtual restoration video of “The Old Summer Palace” and feel the magnificence of “The Old Summer Palace”. By contrast, students are much more intuitive than reading the black and white text on paper. Teachers do not have to use too many words to describe it, and students have realized the magnificence of the royal garden.

Establish a Dialogue and Focus on Emotional Creation

Constructing a dialogue is a way to develop students’ intelligence. Teachers need to change the teaching of “Yi Yan Tang”, give full play to the interaction with students, form a dialogue between teachers and students, and close the relationship between teachers and students. Students, not one-way pass to students, establish a good teacher-student collaboration. It is difficult to form a teacher-student dialogue in the classroom, and it is difficult to effectively communicate and promote the symbiotic wisdom of teachers and students. One of the reasons is the teacher’s nihilistic students in classroom teaching. The misunderstanding of nihilistic student teaching lies in focusing only on the teacher as the leader of the classroom, ignoring the more important aspect, that is, the student is the main body of the classroom. At the same time, teachers are always imparting knowledge in the classroom, neglecting the dialogue with students, unable to grasp the status quo and needs of students, and it is difficult to teach students according to their aptitude. The wisdom classroom is full of intelligent dialogue, full of “spiritual” and “creative”, generated interactively, and opened the mind. In the wisdom classroom, teachers and students must have a spiritual dialogue, a collision of thinking and thought,
and a spark of wisdom. Dialogue plays an important role in the wisdom development of teachers and students. Smart classrooms should not only focus on the teaching of teachers, but also on the learning of students. Emphasis is on “learning by teaching”. Teachers and students should establish a dialogue and interactive relationship, that is, communicate through language. It is fundamentally different from authoritative “telling” or “indoctrination”. It is a democratic and equal communication among subjects, an interaction between subjects and it is interactive. It is based on the multi-directional interaction and dialogue between teachers and students that the classroom is constantly revitalized, and wisdom can be effectively nurtured and generated in it. At the same time, through dialogue, criticism, and reflection, students’ interest is stimulated, and students are transformed from “requiring me to learn” to “I want to learn”. They are actively involved in learning to maximize the development of core literacy and achieve teaching excellence in smart classrooms. Create a wisdom classroom, let wisdom enter the classroom, let wisdom lead the classroom, and make the classroom a classroom where teachers and students coexist (Hu & Qian, 2019).

Dialogue teaching pursues humanistic and creative new teaching thinking and concepts. It requires educational listening and speaking. It requires teachers and students to open their spiritual world to each other, so as to obtain spiritual exchange and value sharing. In classroom teaching, teachers should pay attention to constructing dialogues, actively communicate with students, open their hearts, and accept students’ correct, wrong, and bizarre perspectives. As a student, we must also actively cooperate with the teacher’s teaching to achieve teaching tasks, take the initiative to share my experience and experience with the teacher, and dare to “challenge” the teacher on the basis of full respect for the teacher, and be brave to share his views with the teacher and with his classmate can learn knowledge objectively, have different thinking expressions. Students must learn to learn wisely and promote their all-round development.

Conclusion

In the era of “Internet +”, the application of wisdom education in classroom teaching is not only an exploration of education and teaching, but also more importantly conveys a signal of a change in education methods. Wisdom education has many advantages to rely on new technologies to transform teaching concepts and teaching models. Smart classrooms guided by the wisdom education concept can help to change the traditional classroom teaching mode and cultivate students’ innovative thinking (Luo & Wang, 2018). The exploration of smart classroom teaching in the “Internet +” era is still a brand-new subject. Whether it is theoretical research or practical application, it is in its infancy. There are still a lot of practical problems in the teaching theory and application strategies of smart classrooms: How to establish a wisdom teaching model based on the wisdom classroom, establish a “smart teaching” and “smart learning” concept, combine teaching practice in each discipline, optimize teaching content and method, form a smart teaching system with characteristics of various disciplines; and how to conduct in-depth mining and analysis of learning behaviors, learning processes, and learning evaluation data, develop personalized teaching plans and strategies that adapt to student differences, and truly realize personalized teaching and teaching based on aptitude. The learners’ emotions, attitudes, etc. are evaluated scientifically and objectively, and they are shifting from cognitive evaluation to emotional evaluation and comprehensive evaluation to form a scientific and intelligent learning evaluation system. These need our next focus and continue to deepen our research (Liu, 2016). In the new era of wisdom, both teachers and students should grasp the tide of the times and strive to become the leader of education in the new era.
References

Hu, T. W., & Qian, X. S. (2019). Creation of smart classroom from the perspective of core literacy. *The Research of Curriculum and Teaching, 2*, 32-35.

Li, W., Wang, W., Zhong, S. C., Fu, Y. Q., & Feng, F. (2017). Research on wisdom generation strategy in wisdom classroom. *Electronic Educational Research, 1*, 68-72.

Li, Y. J. (2017). Reform and design of computer classroom teaching in higher vocational colleges under the background of “smart campus”. *Educational Research, 5*, 25-28.

Liu, B. Q. (2016). Research on the design and implementation strategy of wisdom classroom teaching in the “Internet +” era. *China Electrification Education, 10*, 78-85.

Lu, J. (2004). A creed worthy of reflection: Shaping the intellectual. *Educational Research, 6*, 3.

Luo, W. L., & Wang, R. (2018). Principles and strategies of smart classroom design in the “Internet +” era. *Education Science Forum, 7*, 46-51.

Ma. (2014). *Smart education* [EB/OL]. Retrieved May 1, 2014, from http://www03.ihm.com/press/au/en/attach/ment/27567.wss?field=ATTACH-FILES&filename=Smarter%20Planet%20POV%20-%20Education

Qiu, T., Xie, Y. R., & Yin, H. (2015). Frontier development of teaching design research and its enlightenment. *Teaching Frontier, 2*, 10.

Ruan, L. G. (2018). Effective construction of aesthetic class in junior Chinese teaching. *Teaching Dynamics, 9*, 112-115.

Steve, V. W. (2014). *Self-organisation and learning virtual* [EB/OL]. Retrieved May 1, 2014, from http://slideshare.net/timhuckteeth/self-organisation-and-virtual-learning

Tang, Y. W., Pang, J. W., Zhong, S. C., & Wang, W. (2014). Construction and application of smart class in big data era. *China Electrification Education, 11*, 23-34.

U.S. Department of Education, Office of Educational Technology. (2014). *Enhancing teaching and learning through educational data mining and learning analytics: An issue brief* [EB/OL]. Retrieved May 1, 2014, from http://www.ed.gov/edhlogs/technology/files/2012/03/edm-la-brief

Yu, S. Q., & Wang, A. D. (2016). The change path of “Internet + Education”. *China Electrification Education, 10*, 1-9.