BLENDED LEARNING PRACTICES BASED ON THE THEORY OF MULTIPLE INTELLIGENCES

Li Hao

Zhejiang University of Finance & Economics Dongfang College, Haining, Zhejiang, China

ABSTRACT

Nowadays, teaching emphasizes "student-centered" and returns the learning autonomy to students, and improve students' multiple intelligences in an enriched and effective classroom. The emergence and fast development of the blended learning with digital technologies have made a great breakthrough in the teaching methodology. This study suggests some blended learning practices in and outside of the classroom on encouraging teachers to utilize digital platforms and social media in their teaching, and help to improve multiple intelligences for their students. Based on the practices in blended learning, this study also reveals that under the guidance of the theory of multiple intelligences, teaching with digital technology and tools can help to develop students' diversified intelligences, and make the learning experiences more effective.

Keywords: Blended Learning; Multiple Intelligences; Learning Experience Design.

1. INTRODUCTION

According to Salam et al. (2014), teachers nowadays are faced with the younger generation that is not only highly skilled in information and communication technology, but also constantly exposed to diverse information and a variety of media. In such a condition, teachers should also equip themselves with information and communication technology skills, and try to utilize digital platforms and media in their classrooms. Traditional teaching in China emphasizes teaching rather than learning in the classroom. This kind of learning behaviors has some cultural references. The Confucian concept of education emphasizes that teachers need to "preach, teach and dispel doubts" for students. In comparison, other cultures, such as the Indian culture, does not have the concept of "teaching": the Indian constitution uses 14 languages, but none of them has the word "teaching", but only the word "learning". It can be found that taking "teaching" as the center of education is not the universal truth even in the ancient world. Modern education believes that when a student is learning, it is not only he or she is being taught, but he or she is learning actively. Modern classroom teaching emphasizes "student-centered" and returns the learning autonomy to the students themselves.

A various studies recognize that there are two core elements of "student-centered" learning that are crucial to students' progress. Firstly, students need a sense of achievement. They need to experience the improvement of their knowledge and skills and the joy of achievement, rather than mechanical practice or repeated failures and setbacks. Secondly, students need to get positive and useful school experiences, including beneficial interaction with their peers, teachers and other potential friends. However, the traditional classroom teaching is undermined by narrow teaching methods and limited time, which cannot give students personalized growth guidance and sufficient communication environment.

2. CURRENT PROBLEMS IN THE CLASSROOM

In most classrooms in China, recitation is the major learning activity in many humanity subjects. However, most of the recitation contents can only exist in students' memory for a short period of time, and will soon be forgotten. This kind of learning process serves as only a poor substitute for machinery repetition. What is the benefit to ask students to do tasks that computers and artificial intelligence can do much better?

From the perspective of cognitive science, learning is a process of transforming information from a student's short-term memory to long-term memory. In the era of ubiquitous internet connection, students can easily realize how attractive surfing in the internet is and how boring the recitation practice in class is, and they can replace the monotonous content of textbooks with vivid and exciting contents from personal computers or mobile phones. Therefore, many traditional classroom activities inevitably lack in vitality, vision and attraction.

3. RELATED "STUDENT CENTERED" TEACHING THEORIES

First of all, teachers should realize that students are not uniform machinery parts, but human individuals with diverse thinking patterns and characteristics. The theory of multiple intelligences (MI) has made the most contribution to this field of research. During the last decades, this theory has attracted widespread attention in the world, especially in the field of education, since it was proposed by Howard Gardner, an educational psychologist at the Institute of Education at Harvard University in 1983. He then further updated his theory in the 21st century and won the Brock International Prize in education in 2015. According to the theory, intelligence is composed of nine parts, which are speech language intelligence, music rhythm intelligence, logic mathematical intelligence (mainly referring to the ability of operation and reasoning), vision space intelligence, body kinesthetic intelligence, self-awareness introspection intelligence, communication intelligence, natural intelligence and existence intelligence. Gardner (2008) defined human intelligence in the process of developing his theory of multiple intelligences as "the physiological and psychological potential of individuals to process information in a cultural environment, which can be activated in a certain cultural background to solve problems and create products cherished by the culture". He also put forward the concept of "intelligent standard evaluation", advocated diversified, situational and procedural education evaluation. He believed that students' learning process should be evaluated expansively, and the evaluation criteria and methods of traditional education should be modified from time to time.

Coincidentally, Christensen et al. proposed to break the standardized educational system with disruptive innovation in 2008. They put forward the reform direction in education to "taking students as the main body", requiring destructive innovation of educational methods and criteria. They suggest using Internet technology to create a new generation of teachers, using electronic equipment as a learning medium, customizing and integrating teaching contents according to students' intelligent tendency, preferences, characteristics and learning pace, so as to customize and improve students' learning achievements. However, their theories were considered to be difficult in practical applications and general schools lack the technological means to put them into practice. Until the concept of blended learning and the improvement of digital technology have initiated, teachers and students could find a way to break this dilemma. Salam et al. (2014) developed the Online Multiple Intelligence Teaching Tools (On-MITT) prototype for teachers, and they also addressed On-MITT module and initial prototype of the related study. The evaluation of On-MITT has been completed by 79 lecturers of Malaysian Polytechnics from

different subjects. Their study found that there was "a significant positive linear relationship between Interpersonal (IN), Bodily- Kinesthetic (BK), Verbal-Linguistic (VL), Musical-Rhythm (MR), Visual-Spatial (VS), Naturalist (NA) intelligence and academic achievement". Their study also revealed that teachers' motivation of using Online Multiple Intelligence Teaching Tools in their teaching was not mainly affected by their teaching experience, but affected by their knowledge, perceptions and skills in using digital tools. Therefore, the blended learning classroom can encourage teachers to utilize digital platforms and media in their teaching, and help to improve their skills in information and communication technology.

According to Thambu et al. (2020), the purpose of the blended learning is to surpass the traditional learning mode of students' passive listening in the classroom and completing homework exercises after class, encourage the effective implements of the convenience and universality of online resources. In a blended learning classroom, teachers can record or recommend video clips and online resources related to the course content before teaching, so that students can browse and study from their computers, smart phones or other media. Teachers try not to take up too much classroom time to transmit basic information and facts. The corresponding process of information collection is completed by students through watching videos, listening to lectures online, browsing the Internet and search for useful materials before class. Students can also discuss with other peers through their social media. When students encounter learning difficulties, they can watch the video again to check their understanding or consult other students. In the classroom, discussion groups, interactive learning and other teaching strategies are used to have students summarize and display the understanding they have achieved, and carry out dialogues or other practice activities, emphasizing the interaction between teacher and students and among students themselves. In this kind of teaching scenario, the teacher's role is transformed into a guide or advisor, in order to encourage students to interact and cooperate with their peers or explore independently. At the same time, the roles of students change from passive information consumers to active learners.

According to the study of multiple intelligences from Yavich and Rotnitsky (2020), every student should have multiple potentials in the nine fields of multiple intelligences. Influenced by various personal factors such as their individual qualifications, growth environment, and educational experience, everyone's learning intelligence is different, with their individual strengths and weaknesses, and not any learning intelligence is naturally more valuable than others and should be given a higher status. The principle of blended learning is to recognize and respect the uniqueness and differences of each student's intelligence tendency, and build a learning platform to stimulate multiple intelligences on the basis. On one hand, blended learning can reconstruct the structure and process of traditional classroom teaching, make the utilization rate of daily fragmented time in learning higher, and help students grasp the learning progress more flexibly and initiatively; On the other hand, with the introduction and activation of multiple intelligences as the guiding idea, the implement of digital technology for blended learning can provide meaningful knowledge content and intelligent choice opportunities for classroom learning.

4.BLENDED LEARNING EXPERIENCE DESIGNS BASED ON THE THEORY OF MULTIPLE INTELLIGENCES

Firstly, in terms of the learning content, according to the multiple intelligences teaching strategies from Armstrong (2003), teachers need to focus on the learning goals and consider the

teaching methods and technologies related to the learning process from the nine aspects of human intelligence. The development of multiple intelligences needs to be carried out in diversified and interactive activities. Blended learning can make full use of digital technologies to immerse students in a learning environment filled with texts, graphics, images, videos, sound, music and other elements, so as to develop the diversity of intelligences in an all-round and three-dimensional environment. Focus on a unit of knowledge point, students can show their intelligence strengths according to their individual interests and intelligence characteristics. In participating in language activities, students can achieve the development of "distribution on demands", "self enjoyment" and "mutual benefits", and realize the activation of other intelligences. This teaching methodology is conducive to mobilizing students' learning enthusiasm and initiative to the maximum extent, optimizing the learning process, and achieving better learning efficiency.

Secondly, in terms of classroom organization, the task-based learning, group cooperative learning, mind maps and other learning methods are adopted to inspire students' intelligent advantages through diversified learning activities. For instance, a language class can form groups of four students, and different group members should undertake different learning and organizational tasks and roles: the word master finds out the core vocabulary that needs to be mastered in the passage of the text, expands the vocabulary through the mind map and makes sentences combined with their own life experiences, and focuses on the mutual stimulation of the logic and language intelligence; the loud reader leads the whole group to read the relevant passages of the target text, corrects the pronunciation of other members, and focuses on rhythm - musical stimulation of the vocal intelligence; the language interpreter interprets and translates paragraphs to help team members sort out and understand the text content, and focuses on the interpersonal communication intelligence; the sentence analyst finds out complicated sentences in the text, and carries out sentence composition and grammar analysis in a graphical way, and focuses on the mutual stimulation of visual and linguistic intelligence. According to Graham et al. (2013), in the learning unit, students should be given the opportunity to form a group as a "learning community", so that group members can meet and discuss topics related to the learning points of the unit. Reading materials and other audio and video materials can be distributed through the online learning forum in advance as the core contents of the upcoming classroom discussion. Participants, including experts in the related field can be invited via online video streaming to provide more information to the student groups or express their view points on the issues discussed. This process allows each student's learning habits and various intelligences to be interconnected, providing them with a comprehensive learning experience.

Thirdly, the design of the learning process itself becomes an important learning experience. For instance, the best way to learn how a computer works and understand why it works is to design and assemble a computer by yourself. It is in this process that students realize what they really want from their personal computers. It is for this very reason that there are more and more businesses that allow consumers to design and modify products based on their individual needs. Therefore, students can better master skills and improve their knowledge through designing what they want to learn and how to achieve their goals. Christensen et al. (2008) introduced a project carried out by the Department of social systems at the Wharton School of business at the University of Pennsylvania to allow students to design their own syllabus, including a variety of teaching methods. Students need to present their design of the learning process in front of a panel of teachers in relevant subjects and propose the learning resources they need. Their design will

be reviewed by their peers and teachers, and a questioning procedure will be completed. During the learning project, teachers recommend the related information, knowledge points and necessary resources for efficient practice in the field of study, guide students to develop the core knowledge points and skills of completing such a project, and suggest extensible learning contents. Such an experiential learning process will be of great benefit to subjects that require practical skills, and the desirable goal is that students will be able to receive more job offers with better starting salary after their graduation because of their improved practical skills and understanding of the producing procedures.

Fourthly, in terms of teaching materials, smart phones and computers with Internet connection should be widely used to help students learn from their peers more efficiently. Müller and Mildenberger (2021) point out that the online learning environment has the advantages of intuition, autonomy, scientificity and interactivity, which correspond to the integrity, diversity, practicality and development of the theory of multiple intelligences. In the design of the learning process of the multimedia courses and exercise materials, visual and audio symbols can be integrated together as much as possible to cooperate with the organization of the learning content. In the classroom, students can form an intuitive understanding of the scenes of the target texts, which is conducive to their positive transfer of verbal intelligence through vision, rhythm and other intelligences. In terms of the learning applications, it is recommended to use professional educational applications to help design a blended learning environment. Professional educational applications allow students to obtain a variety of learning resources provided by teachers and experts, and sort them in different "playlists" with different intelligence and ability categories. Students can get a variety of choices from different intelligence and ability categories, from online videos to articles and educational games. Students can use their mobile phones or personal computers to learn by themselves, and adjust their learning progress as they see fit. When their teacher asks them to participate in class activities, they can adjust their rhythm to be consistent with the learning progress. Some educational applications can also record students' learning content, process, methods and results, help students communicate and review their learning experiences, reflect on their learning progresses and mistakes, and adjust learning methodologies and strategies accordingly.

5. CONCLUSION

It can be said that multiple intelligences have opened a window for diverse and effective teaching methods, some of which have already been adopted by many teachers, while others are still unviable due to the limitations of out-dated classrooms and teaching syllabus in some schools. However, the emergence and fast development of the blended learning with digital technologies have made great breakthrough to the current classroom teaching in China.

Blended learning breaks the limitations of fixed time and place in traditional classroom teaching, and helps students expand their communication and learning circle in a more effective and convenient way. In blended learning, teachers and students can use social media, online design tools, tutorials, demos, videos, catalogs and mobile applications with graphics, image editing and data processing to cooperate and build a platform for developing students' multiple intelligences. In this learning environment, not only students can use their fragmented time to learn and greatly improve the learning efficiency, but also open up new horizons and immerse into the deep learning through cooperative and diversified learning experiences. Blended learning with multiple intelligences can guide students to conduct practices based on virtual

reality scenes, and help them learn more flexibly and effectively in the process of practical problem solving. The synergy and mutual motivation between teachers and students can improve the development of students' multiple intelligences, and help them achieve a deeper understanding of their own personality and characteristics. The blended classroom based on multiple intelligences can also cultivate students' critical thinking skills through observing and communicating about different cultural experiences and phenomena. Through collecting, sorting, storing and extracting cultural elements, students can construct a meaningful world outlook and practical skills to strengthen cross-cultural communication, which are conducive to the improvement of students' quality education in the context of globalization challenges.

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Hao Li was born in Kunming, China in 1978. He graduated from Yunnan University, China. He received his doctoral degree in Education in 2014.

He is currently teaching in Foreign Language Department, Zhejiang University of Finance & Economics Dongfang College, Haining, China. His research interests include sociology of education and teaching methodology.