The Application of Distributed Ledger Archival Portfolio Evaluation Method in High School Art Teaching

Runze Wu

Yili Normal University, Yili, Xinjiang, 835000, China

Abstract: *This paper mainly discusses how to use the portfolio evaluation method in high school art teaching. According to the train of thought in this paper, first discusses the particularity and universality of high school art teaching evaluation, and find the portfolio evaluation method in high school art teaching than other subjects to adapt, and to combine the excellent mechanism of distributed books, which is the third part of the distributed books of portfolio evaluation method. In the fourth part of this paper, the two cores of Feynman learning method review and leak filling are used in the distributed ledger portfolio evaluation method, so that the evaluation method can be sublimated to a new height, so as to improve students 'innovation ability and promote students' learning in art.*

Keywords: *Distributed ledger; Portfolio evaluation method; Feynman learning method; Memory*

The meaning of existence in the average human brain is for efficiency and perception rather than memory. However, people have found that memory is extremely important in the process of learning, and words need memory, various formulas, periodic tables need memory, ancient poetry and many other subjects need memory. Although memory is not mandatory, but for most ordinary students, memory is the basis of learning a subject well. Of course, art is no exception, but what art needs to remember is slightly special. There are many handicraft classes, copying classes and sketching classes in high school art class, but they account for a small part, and the proportion of high school art appreciation class is slightly higher. The higher the proportion of appreciation class, the more the memory content of theoretical knowledge, and the less the content of technical knowledge. No matter which is more or which is less, there is a lot of content to be remembered. Therefore, high school art not only needs the memory of art techniques, but also the memory of theoretical knowledge. The memory of theoretical knowledge generally includes the content of art history, the content of all kinds of classical art schools, the content of the three components, the content of color, material, texture, and the memory of the creation process and design procedures and methods. Among them, visual memory and muscle memory can only be strengthened by repeated practice, and long-term persistence can achieve certain results. Among them, the memory of theoretical knowledge is the basis of the creation and understanding of art. If we do not reach a certain height, then we can only stand on the shoulders of the giants to surpass our predecessors and the people around us. Therefore, this paper focuses on the use of teaching evaluation in high school art teaching to strengthen students' memory of art-related content, so as to achieve the effect of promoting learning.

1. The Universality and Particularity of High School Art Teaching Evaluation

As far as high school art teaching is concerned, the subject of art has both similarities and differences with other disciplines, which is the universality and particularity of the art discipline. The universality of fine arts lies in that this subject, like other subjects, requires continuous practice to improve the corresponding abilities and master the corresponding knowledge and skills; all need all kinds of teaching materials and corresponding content; both need students to learn and teachers to teach; both need to follow certain scientific rules. The particularity of art discipline is art required equipment, materials, venues, environment, teaching methods, evaluation methods and so on objective factors, of course its subjective factors is also very important, such as students 'interests, students' family background, students 'personal experience, teachers' aesthetic taste, teachers' ambition and so on will affect the teaching quality of art discipline, these will become the particularity of art discipline. Therefore, the evaluation of art teaching will also be affected by various factors. For example, the traditional Chinese painting works have large areas and the rice paper materials are easy to damage,

which cannot be kept as easily as the math exercise book or English exercise book. For another example, sculpture works in art works have a long working time and strong professional techniques, unlike math homework, which can be completed in a short time. In addition, there are various evaluation methods of the discipline of fine arts, and there are often practical courses, and its recording methods and evaluation methods are different from those of other disciplines. There are many angles in the evaluation of art teaching evaluation, which are not only specific to the classroom content and classroom form, but also specific to the content and form of a certain learning activity in the classroom. Then the evaluation of high school art teaching has extremely remarkable particularity. The evaluation of high school art teaching is mostly the evaluation of appreciation class and appreciation works, which has weak technique and strong theory in terms of content; compared with the junior high school period, students' physical and mental development is slightly perfect, and they can give full play to the main initiative in high school art teaching, so the evaluation of high school art teaching is less objective and subjective. From the purpose of evaluation, the evaluation of high school art teaching is more to cultivate students' aesthetic accomplishment, patriotism, innovative thinking, etc.; from the perspective of hardware and software, high school art class is much less than the current high school art teaching activities appreciate students less empathy, the depth of art knowledge and ability cannot reach the corresponding level, which leads to the depth, breadth and accuracy of high school art teaching evaluation[1].

2. Advantages and Disadvantages of a Distributed Ledger

The concept of a distributed ledger is derived from blockchain technology, which originated from a paper published by Satoshi Nakamoto in 2008. Its distributed ledger is a practice of the decentralized concept in the financial field. Before you understand the concept of a distributed ledger, you need to know the ledger. Trading in today's society has become increasingly frequent and large and complex, good memory, of course, if there are some people in order to better trading, do something better, need to refer to their past trading records, all kinds of trading platform, all kinds of financial institutions and various countries should have various transaction records, in order to provide to these people consult, if the platform server can not record these transaction records, so there will be a lot of contradictions, so books arises at the historic moment. Then, in the 1980s and 1990s, before the computer function could not meet the needs, the books were basically recorded on paper. Even if some people had the ability to provide the science and technology, even if the technology could turn a paper ledger into a digital ledger, the conversion would mostly turn the one that previously existed on paper into a digital version of the one that existed on paper. To put it simply, the digital ledger was the digital version of the paper ledger at the time. At the beginning, some institutions are responsible for checking the authenticity of the transactions recorded on the books. But then the vigorous development of encryption technology, computer performance, the popularity of the network and the development of all kinds of advanced algorithms and so on all kinds of science and technology factors make everything can be digital, and digital easily, more important is already some people can do not rely on Banks, consortium, financial institutions and other power is relatively concentrated unit. The distributed ledger emerges. A distributed ledger is a database that is saved, updated and verified by multiple separate computers or nodes in a large network. Everyone who uses a distributed ledger can act as a witness, so a distributed ledger has distributed witnesses, which makes it very difficult to carry out illegal and criminal acts such as cyber attacks, malicious tampering, and forced manipulation. In the centralized ledger, only one entity holds a ledger or a copy of the ledger, so the reliability, security, stability and other aspects of the centralized ledger are urgent problems to be solved. In a distributed ledger, all nodes of the network have an identical copy of the ledger. No single entity can make changes to the distributed ledger without the consent of the node, and any new changes will be added to all other nodes within a certain period of time, meaning here all the nodes involved in the confirmation of the ledger content. Therefore, the high reliability, security and stability of distributed ledger are also an important practice for people on the road of decentralization.

Of course, the distributed ledger is not a very perfect system, and it has its own drawbacks. Because when every node has the same copy, whenever one node adds new content, all the other nodes will change, so the capacity of its ledger content is the biggest problem. The blockchain that Bitcoin uses exists to some extent. He connects user connections around the world, and whenever one user makes a transaction, all the other users will update their books. Since 2009, the capacity of its ledger has exceeded 330G. In other words, everyone who wants to earn bitcoin through a Bitcoin platform by now has to download a ledger packet of more than 330G. Of course, this is inevitable, because decentralization of power means that everyone can check the ledger, so everyone who wants to play

bitcoin has to download the ledger packet first. Over time and the frequency of bitcoin transactions increases, the ledger packet capacity may exceed 400G, and then 1T, 5T. the capacity becomes hard to imagine [2].

3. The Application of Distributed Ledger Portfolio Evaluation Method in High School Art Teaching

Before understanding the distributed ledger of the portfolio evaluation method, I first take you to understand how people who play bitcoin earn bitcoin, here I call people who play bitcoin as miners, called bitcoin as a gold mine or mine. In order to ensure a certain value attribute of the virtual currency Bitcoin, the number of mines in the world of Bitcoin is limited, which is the same as the amount of gold on earth is limited. The bitcoin number is capped at 21 million, and miners have struggled to dig up about 18 million by 2021. In the world of virtual currency Bitcoin, the only way to get bitcoin is to calculate a math math problem, which can develop a new block, develop a new block can get 6.25 bitcoins, plus 2 bitcoins originally used as fees, a total of 8.25 bitcoins. The Bitcoin platform will publish an Olympiad question every once in a while, which is determined by the overall level of computing power around the world. As for the new block, all other blocks are required to confirm until a new block is completed; if the new block is not recognized by other blocks, then the block and all bitcoin gains in the block will be invalid [3].

The convergence of the distributed ledger operation mechanism and the portfolio evaluation method is that they both have a record book. Distributed ledger application in bitcoin is generally considered to be a block, the block here is like a box, this box can be used to record bitcoin transactions and some other records, and this box has a certain capacity size, its capacity is generally set at 1MB. Based on the capacity size of each transaction data, each block can store roughly 4,000 transaction records. And with bitcoin, the average maximum number of transactions per second is about seven. Comparing Alibaba's hundreds of thousands of transactions per second, the limitations of bitcoin transactions are obvious. So why do I use the distributed ledger in the art teaching evaluation here? Because there's a problem with recording the capacity here, At present, most high schools have very high frequency, Learning and teaching activities are also a very high frequency, If the portfolio evaluation method is used, The capacity of the recording content required for all kinds of learning activities must be greatly increased; In speaking, the current art frequency in most schools is usually 2 to 4 hours per week, The relatively low frequency of learning and teaching activities, If the art class assigns a certain amount of homework, Homework is also generally for long-term work, Long-term work is usually completed in one week to two weeks, So in terms of the particularity of the comprehensive art course, The application of distributed ledger in art teaching evaluation can greatly reduce the capacity of record books. In addition, the portfolio evaluation method generally selectively records learning activities during the implementation, so the strategy method of the portfolio evaluation method itself further reduces the hardware conditions of the record book of the portfolio evaluation method. If this evaluation method is applied in the junior middle school art teaching, it is like a fish in water like a tiger with wings added [4].

In order to let readers understand the portfolio evaluation method of distributed ledger, the author has constructed a practical case here. Take Class A as an example, the number of students in this class is 30, each student is numbered from 1 to 30, the head teacher is A, and the art teacher is B. The distributed ledger evaluation method of portfolio must first meet some hardware conditions when applying. The teacher in charge for opinions from the class, for the class each student and art teacher have a book, this book for the portfolio evaluation method, due to the conditions, the author here will use the original loose paper book, page marked page number, and this book capacity is large enough, each book can record class 30 students high school three years all art learning activities. The first art class of the new semester is on Friday afternoon, Friday this day is May 10, B teacher assigned a homework, the homework content is to design book cover and book cover, and with creative ideas and work creation process explanation, in the morning of May 14 unified homework. On the morning of 14th, B brought the students' works to the school works exhibition room to place the works, display and explain the explanations one by one. From noon on May 14 to before school ends on May 15, students should arrange their own time to go to the work showroom and comment on other students' works according to certain requirements.1 to 10, each student evaluates 11 to 20; 11 to 20, each student evaluates 21 to 30; 21 to 30, each student evaluates 1 to 10. Each student in this case was evaluated 10 times. Each student will record the comments in the record book according to certain requirements. Each student in writing the evaluation content, the number of words at least 100 words, more than no upper limit. When each student writes the evaluation, the loose leaf paper only uses a single page, and only one student is allowed to write on one page. If the evaluation of the last student is finished, if you

want to write the evaluation of the next student, you must turn the page. Note after the page number of each page and the number of the evaluated student. For example, the first page of student No.1's notebook is about the evaluation of student No.9's work, so the page number and page number should indicate 1 (1-9). Each student can select the excellent works he thinks he encountered during the evaluation process, and mark the five-pointed star after numbered. If not, mark no five-pointed star. If there are multiple, mark multiple stars, such as 1 (1-9 ☆). Similarly, B will hold a record book and evaluate students 'works. The difference is that B will evaluate all students' works and review the evaluation content of all students at the end of the evaluation, that is, after school on May 15th. In the daily routine inspection or at the end of the semester, B will review and summarize the works and evaluation contents of all the students in the class, extract and collect all the evaluations of student No.1, and extract and collect all the evaluations of student No.2, and so on. Finally, add the evaluation content written by B himself.

This is the general process of the actual case, and some of the important details need to be described here. First, the importance of responsibility. Some students are not responsible, they do not want to seriously evaluate their classmates' works, but random evaluation, may be in a lazy psychology, may be other reasons, at least such irresponsible evaluation is likely to cause conflicts or hurt others. Therefore, in the operation of the whole evaluation method, as a teacher, B needs to strictly control the authenticity and fairness of the whole. Second, the importance of confidentiality and privacy. Some students do not want their works to be studied by others, and they do not want their works to be exposed to the public. Here, the whole class needs to give a little place to each student a certain privacy space. And if the psychological really cannot accept the students, then under the cooperation of the class, the class work and evaluation content using asymmetric encryption; asymmetric encryption will involve the public key and private key, private key is only open, so that only the person with the private key can know their work and evaluation content. Third, the actual case constructed by the author here is not necessarily perfect. Specific problems specific analysis, cannot mechanically copy, refused to take the doctrine, to seek truth from facts, theory with practice.

So in general, distributed books of portfolio evaluation method is the current portfolio evaluation method distribution, within a certain range of all hands have a copy of the same content, this transcript is the content of the portfolio evaluation method main body, and before teachers comprehensive filing portfolio, as long as there is a student in the transcript to modify or add content, after the teacher comprehensive sorting portfolio, portfolio content will have a certain degree of different. Therefore, the decentralization of power can prevent the real realization of fairness and justice.

4. Sublimation of Distributed Ledger Portfolio Evaluation Method by Feynman Learning Method

Of Feynman's study method, Richard Feynman is considered the most intelligent theoretical physicist after Einstein. What is Feynman's learning method? Here's a general description of the story. A young man take the train to Beijing, ride very boring and next to the seat of the uncle chat, that uncle has a woman, daughter admitted to tsinghua university three years ago, the son was admitted to Peking University this year; the young man is very envy and surprised, then asked the uncle how education children, uncle said he has no culture do not understand education, feel their hard earned money to the child a person tuition a little loss, so let the child every day to the teacher told the uncle, uncle himself can learn, so to pay a tuition has two people learn knowledge. And the uncle's children are generally not how to play, usually when nothing are immersed in learning. In fact, the uncle himself did not realize that he asked his child to do this is actually to use a set of scientific methods to learn, which is Feynman learning.

Here, I give you an in-depth analysis of the strength of the Feynman learning method. Here, we first introduce two concepts, passive learning and active learning. Passive learning mainly includes listening, watching, listening and watching, demonstration and so on. Active learning mainly includes group discussion, practical operation (learning), teaching, immediate application and so on. According to incomplete statistics and the research of the US National Training Laboratory, the absorption efficiency of listening knowledge is generally about 5%, with 10%, 20%, 30% demonstration, 50%, practical operation (learning) 70%, teaching 90%, immediate use 90%. It can be seen that the absorption efficiency of active learning is generally greater than that of passive learning, and the absorption efficiency of teaching and application is as high as 90%. This article is independent of its immediate use. The reason why the knowledge about this behavior is so efficient is that there is an important logical relationship and a moral lever. When normal people generally impart knowledge to others, a

default important premise of the imparator is that the imparator can deeply understand the knowledge point. As for the deep understanding of the knowledge point at that time, we generally think that the understanding degree of the impartee is less than that of the impartee. Therefore, on the basis of this theory, if A wants to teach A certain knowledge point to B, then A must deeply understand this knowledge point; or A thinks that he has deeply understood this knowledge point, but actually does not deeply understand or understand the deviation; if there is any doubt, these doubts will be exposed when A teaches B, and then AB will benefit and learn together. Therefore, when teaching, A forces himself to fill the gaps in A disguised way of teaching, while B asks and finds suspicious problems in the way of learning. But there is also A moral problem, if A itself does not understand A knowledge, and A according to their own assumptions and random reasoning can perfect, in this case A to B knowledge, B found no doubt and believe A taught content, so AB two will fall into a vicious circle, unless someone broken, someone found, external force interference, or eyes will have been blinded. And when it comes to the method of this magic thing, you can as others to force you to do so, can also be their initiative to do so, also can believe that do effect, also can think yourself in vain, even sometimes don't know oneself in the use of some scientific learning method, but as long as you do scientific rigorous steadfast, to the right season, you harvest no less.

So to summarize Feynman learning, there are actually five steps. The first step is to learn a corresponding knowledge point; the second step is to make a child understand and skillfully use the knowledge point; the third step is to review the unclear or stuck place; the fourth step is to sort out your own ideas and prepare your own language expression; the fifth step is to teach this knowledge point to a child again. Children can be family and friends, a passer-by, anyone, or a person in a virtual world or imaginary world. The third step is the most critical, and the process itself is a process of checking the omissions and filling the gaps, recording the unclear or stuck place with a bad pen. Therefore, carefully think about whether the third step is like the process of mutual evaluation in the distributed ledger portfolio evaluation method. And each of the five steps of Feynman learning constantly stores information and extracts information from the hippocampus to repeatedly strengthen the memory to the level of permanent memory [5].

Next, let's discuss how Feynman mates the distributed ledger portfolio evaluation method. For ordinary students, memory is the basis of learning, and only memory can be used flexibly. Therefore, in order to strengthen the memory of learners, the author combines the portfolio evaluation method with Feynman learning method, and uses repeated ways to constantly strengthen memory, so as to improve their academic performance. So the close convergence between the distributed ledger portfolio evaluation method and the Feynman learning method mentioned here is repetition and missing the gaps. In the distributed ledger portfolio evaluation method, each student will evaluate the other person's work, and from the total amount, each student for multiple evaluation. Each student at the time of evaluation, will inevitably mobilize their mind knowledge base, using the existing knowledge to evaluate the evaluation works, evaluators can also take this opportunity to leak to fill a vacancy, and can also be on the evaluation of autonomous learning, found the advantages and disadvantages of others work, evaluators can learn the evaluation works, and found that the evaluation of shortcomings, experience to warn themselves. So to summarize the distributed ledger portfolio evaluation method, in fact, it is also five steps. The first step is to learn the corresponding art knowledge points, either theoretical or technical; the second step is to use the above knowledge points to create or conduct some learning activities; the third step is to evaluate the creation and learning activities of others; the fourth step is to determine the advantages and disadvantages; the fifth step is to create or learn again. One of the most critical is still the third step, only from the third step of this step, only deep dig out their unclear place, to lay a good foundation for the next steps. From the five steps, students repeatedly mention the corresponding knowledge points in the evaluation process, so as to achieve the effect of strengthening memory.

5. Conclusion

Discuss so much, in fact, the most important point is to flexibly use the distributed ledger portfolio evaluation method. Feynman learning method is a kind of learning method, and distributed books portfolio evaluation method is a kind of evaluation method, using feynman learning method in distributed books portfolio evaluation method because I hope that teachers can use the evaluation method to stimulate students 'love of art, cultivate the students' aesthetic temperament and interest, depth to strengthen the students 'art foundation, in order to improve the students' innovative thinking and promote students' learning in art aspects. In high school art teaching, not only can promote students 'study through the distributed ledger file portfolio evaluation method, improve students' innovative

thinking, cultivate students' aesthetic taste, but also there are many methods. No matter the black cat white cat, catch a mouse is a good cat, on the basis of reasonable methods specific problems specific analysis, so that will be able to distributed ledger portfolio evaluation method in high school art teaching. Therefore, I believe that as long as a qualified high school art teacher, their ideal is to want their students to become better and understand life.

References

[1] Chen Liang, Huang Qing. Reform of university teaching based on blockchain technology [J]. China Education Informatization, 2021(03):40-42+96.

[2] Yin Xuan. Teaching evaluation standards and methods of high school art appreciation [J]. Tianjin Education, 2019(30):145-146.

[3] Liu Guojuan. Reform of high school art teaching evaluation under the new curriculum standards [J]. Teaching Management and Education Research, 2021(10):103-104.

[4] Wang Jue. "Feynman Learning Method" teaching principle analysis and application [J]. Journal of Guangxi Vocational and Technical College, 2020, 13(04):98-102+115.

[5] Li Chaoyang. Research on privacy protection method of distributed system based on blockchain [D]. Beijing University of Posts and Telecommunications, 2021.