

# Application of Virtual Currency in Education and Teaching

Guangping Yun<sup>1</sup>, Hongxi Guo<sup>2</sup>, Pengbo Yang<sup>3</sup>

<sup>1</sup>Xidian University, School of Computer Science and Technology

<sup>2,3</sup>Xidian University, School of Economics and Management  
(Xi Feng Road, Xinglong Section 266, Xi'an, Shaanxi Province, China)

**Abstract:** *Through analysis of education policy, the paper presents the deficiency of existing college evaluation of teaching system. It analyzes the application of virtual currency in education and teaching and the existing problems thereof, and puts forward a new application scheme.*

**Keywords:** Virtual Currency, Education and Teaching, Evaluation method, Issuance mechanism

This study was supported by the Education and Teaching Reform Research Project of Xidian University -- Research on the Issue and Circulation Mechanism of Virtual Currency in Education and Teaching Reform (C18060) and Research and Practice of Teaching Operation Mechanism under the Background of General Education (C1911)

## 1. Introduction

The Ministry of Education requires all colleges and universities to carefully identify the outstanding problems and weak links in classroom construction and management, comprehensively sort out the teaching content of each course, eliminate inferior courses and build "gold courses", so as to effectively improve the teaching quality. In view of this, it is necessary to introduce a new incentive mechanism to motivate the student's enthusiasm for learning and the teacher's initiative for teaching, and to measure the achievements of talent cultivation of college students in an all-round way.

## 2. Literature Survey

At present, application of virtual currency in education and teaching lies roughly in two aspects: class management and small circulation in such institutions as college libraries.

### Application of virtual currency in class management

The virtual currency circulating in the class is called "U coin". Students can get different amounts of U coin every month based on a policy of reward and punishment which is formulated according to their performance in terms of morality, grades and attendance, etc. Students can obtain U coin through commodity trading among them or be rewarded with U coin by participating in projects. But the monthly sum of transactions cannot exceed the prescribed amount. If the college has a fund for class management, some school supplies and daily necessities can be purchased for physical exchange of U coin.

Its application in class management has increased the student's interest in learning and activity participation, improved the class management efficiency, and promoted the scientific management of class.

### Application of virtual currency in the library

Its application in the library is similar to that of Taobao gold coin and Baidu coin. Readers who borrow books from the library or log into the library's digital information database can obtain a certain amount of cultural consumption points. Different levels are set based on the amount of points. When reaching certain level, the points can be changed to star coins which can be used to purchase membership, e-books or other services.

The cultural consumption points visualize the data via revealing the books borrowed and use of information database. And the exchangeable star coins, which can be used to purchase e-books and other services, facilitate increasing the users' enthusiasm and promote the sustainable development of the library.

## 3. Problems in application of virtual currency in education and teaching

The application of virtual currency in class management and libraries has made certain achievements. However, its operation mechanism has the following problems:

### Issuing mechanism

- 1) The virtual currency is issued without recycling, which is mainly reflected in class management. As long as the student's performance meets the requirements, the class committee will provide corresponding amount of virtual currency, but no recycling is required. Inflation will occur when the supply of virtual currency exceeds the value of articles since the currency is issued endlessly while the exchangeable articles are limited.
- 2) The virtual currency is issued in an unplanned manner. Instead of issuing the currency based on market economy and corresponding calculation rules, it is

Volume 9 Issue 6, June 2020

[www.ijssr.net](http://www.ijssr.net)

Licensed Under Creative Commons Attribution CC BY

distributed according to the students' performance, which is planless and random.

- 3) The virtual currency circulates in a narrow scope. Take U coin in the case study for example. It applies only inside one class, without circulation with other classes. On a higher level, the virtual currency cannot circulate among colleges, which is not conducive to interscholastic exchanges.
- 4) Issuer of the virtual currency is not authoritative enough. The virtual currency is handed out to the students by the class committee members, who are students themselves. Therefore, playing favoritism and committing irregularities can hardly be avoided

#### Circulating mechanism

- 1) No lending function. In the case, the virtual currency is only used as a means of payment, with no lending function.
- 2) One-way transmission. Its circulation is one-way, i.e. it can only flow from the class committee members to the students, but not vice versa.
- 3) It cannot be used across colleges and is not internet- or scenario-based. Firstly, the virtual currency can only be used in a single scenario (in class management and the library) and has not been widely promoted. Secondly, its market is not formed spontaneously by students; it's only a single transaction that emerges under certain management tool.

#### 4. Methods

In view of the limitation and problems of the application of virtual currency in education and teaching, the Paper proposes a new application scheme, which shall be stated below from the currency issuing and circulation, and recovery mechanism.

##### Issuing mechanism

As a currency circulating on the campus, the virtual currency shall be issued and set its amount of issuance and reserve ratio by the Finance Office as the main department.

- 1) The Finance Office shall issue the virtual currency annually at a ratio of 1:1.8 (sum of credits: sum of virtual currency) based on the number of students in each grade and the total number of credits to be taken each semester to the Academic Affairs Office, which shall then distribute corresponding amount of virtual currency to the Academic Affairs Office of each school (only for student selection of courses). And finally, the students shall get it from the Academic Affairs Office of their schools.
- 2) Students shall select course based on the open course price with the virtual currency issued by the college, which, after it is finished, shall be returned to the students who pass the course based on the course credit and student mark. Besides, those with high mark and excellent performance shall be rewarded with extra virtual currency (no more than the course price), and no

virtual currency shall be returned to students who fail.

- 3) Teachers shall be evaluated anonymously by the students after they complete their classroom teaching tasks. And the Academic Affairs Office shall issue virtual currency to the teachers as virtual salary based on such evaluation and their teaching hours.
- 4) If the virtual currency cannot meet his needs, the student can apply for a loan to the Academic Affairs Office of the school and repay the principal and interest upon maturity. If no return is made with a time limited, the student shall be punished as the case may be; for serious cases, he shall be included on the dishonesty list and no more lending shall be open to him.

#### Circulating mechanism

The circulation mechanism can be roughly divided into the following types

- 1) College to student: For freshman, entrance exams shall be organized and virtual currency used for selecting courses shall be issued to those who take the exams. For sophomore and above, virtual currency for selecting courses shall be issued to those who register on time every semester.
- 2) B2B model: The College can exchange courses with other colleges, whose students can take our courses by paying certain virtual currency (after exchange rate conversion). If they pass, the College shall recognize the credits and reward them with certain virtual currency; if they fail, a chance to retake the course shall be given but the course price must be paid. If the retake is passed, certain virtual currency shall be rewarded, but no more chance shall be given to study the course if the retake fails. Different virtual currencies of two colleges shall be converted based on the credits and corresponding exchange rates.
- 5) B2C model: If a lecture is to be held by the college or by other companies in the college, group purchase or limited-time seckill can be initiated on the campus platform. If a teacher is invited to give an academic lecture or report by the college, certain service fee shall be paid to the teacher and admission fee charged from the students to attend.
- 6) C2B model: Organizations such as student associations and students' union can pay virtual currency to the college as venue rental fees if an activity is organized. For comparatively idle venues, limited-time seckill for rental can be initiated by certain departments of the college.
- 7) C2C model: Teacher to Student: Teachers can pay students to conduct project work, scientific research activities, etc., and reward students with excellent and active classroom performance with virtual currency. And Students can pay teachers to give lectures and guidance, to modify and instruct papers and graduation thesis, etc. with virtual currency.

Student to Student: Students can trade with virtual currency. For example, they can purchase second-hand books and notes, pay their classmates to explain experiments and

confusing problems, or pay membership fees of organizations such as student associations and students' union with virtual currency.

### Recycling mechanism

Virtual currency shall be sorted and recycled in light of their types each semester.

- 1) The virtual currency used for course selection issued by the school shall be recycled and zeroed out at the end of each semester.
- 2) For senior students, the college can select outstanding graduate representatives and/or they can apply to the college for paper certificates of outstanding students based on the amount of their virtual currency, which shall be recycled in total eventually.
- 3) The college can recycle the teachers' virtual currency at certain benchmark value every year. And the extra virtual currency can be used to reward students and hire students to do scientific research, etc.

### Courses selecting mechanism

Students can select courses with virtual currency. The college will publish the courses, course introductions, teachers and their teaching evaluation results one week prior to the opening of the course selection system. Students can browse in advance to work out a selection scheme.

Each course has a basic price. Students can provide their own price when choosing the course (the price is limited to float at 0.8 above and below the basic price) and fill in their parallel selections within the specified time (note: the paid course price cannot exceed their virtual currency available).

If a course is chosen by superabundant students, it goes to the highest bidders. For those who fail the first round of selection, a second round shall be offered by the same methods as the first round. For those who fail again, a third round shall be conducted, and who choose the course earlier shall win.

## 5. Conclusion

Based on the past application of virtual currency, our study improves its shortcomings, and proposes a new type of Application Scheme according to the actual situation of the school, including its distribution, issuing, circulation, recycling mechanism and course selecting mechanism. The use of virtual currency as a quantitative measure in education and teaching is conducive to improving student enthusiasm and promoting teachers to improve teaching levels.

## References

- [1] <https://wenku.baidu.com/view/8e940b5a51e2524de518964bcf84b9d529ea2c5a.html>
- [2] He Xiaolin. Brief Discussion on Operational Mechanism of Virtual Currency in Library [J]. Nanchang: The Journal of the Library Science in Jiangxi, 2008(04): 62-63.

[3] Shang Wenjing. Analysis of Virtual Money on Issuance, Circulation, Withdrawal Mechanisms under the Background of Network Economy [D]. Beijing: Beijing University of Posts and Telecommunications, 2009.

[4] Wang Yi, and Ye Maosheng Study on Mechanism of Virtual Currency Issuance [C]. Beijing: Chinese Academy of Management. The 4th Academy of Management Annual Meeting of China – proceedings of finance session, 2009: 35-40.