# A Study on the Sustainable Participation Behavior of MOOC Learning Educators in the Context of Big Data

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**Abstract.** MOOC, as a new type of online education course, has the characteristics of initiation, personalization and networking, which provides a new opportunity for educational reform and innovation in the Internet era, and also promotes the development of national learning and lifelong learning. One of the main problems of MOOC is the low passing rate of course learning. There fore, it is of great significance to explore how to promote the continuous participation of MOOC learners from the perspective of research and practice.

**Keywords:** MOOC · Piper · Learner · Continuous participation · Behavior · Motivation

## 1 Introduction

This paper aims at "MOOC learners" and "continuous participation behavior", obtains the first-hand data through literature research, personal practice, interview, questionnaire and other means, adopts grounded theory, modal analysis and other qualitative research methods, and SPSS data statistical analysis, Amos structural equation analysis and other quantitative analysis methods, aiming at the mooc learners' persistence We should continue to explore and study the participation behavior [1].

This paper mainly carried out the following work.

Firstly, on the basis of literature research, this paper summarizes the connotation and characteristics of mooc, and systematically combs the related research on learning motivation and participation behavior of mooc at home and abroad.

Second, explore the motivation evolution mechanism of mooc learners continuous participation behave or. It is found that the motivation formation of mooc learners continuous participation behavior can be divided into three stages: initial participation motivation, staying motivation and continuous participation motivation. The stability and maintenance of learner sparticipation behavior ultimately depends on the satisfaction of psychological needs and the generation of motivation for ability realization.

Thirdly, the Expectation Confirmation model is extended by introducing intrinsic motivation, perceived entertainment, self-efficacy and contributing factors. The influencing factors of MOOC learners continuous participation behavior are analyzed, and the research model is verified.

Fourthly, it compares the continuous participants and non continuous participants in mooc learning from three perspectives: obstacle analysis, modality analysis and case analysis.

Fifthly, the possible paths to promote the continuous participation of learners are proposed, including MOOC based online and offline mixed learning path, peer mutual learning path and mooc for primary and secondary school teacher training.

## 2  Introduction

The rapid development of network technology makes the scale of Internet users expand rapidly. As of December 2016, the number of global Internet users has reached 3.42 billion, accounting for 46% of the global population. According to the 39th statistical report on the development of China Internet network issued by China Internet Network Information Center (CNNIC), by the end of December 2016, China Internet users had reached 731 million, with a penetration rate of 53.2%. Compared with the end of 2015, there were 42.99 million new Internet users, with a growth rate of 6.2%. The total number of websites in China was 4.82 million, including 2.59 million websites under the domain name One. In addition, CNNIC 39th statistical report on the development of China Internet also pointed out that the Internet is closely integrated with the traditional economy, its status in the society has been improved, and various applications have a greater impact on the lifestyle of Internet users. The theme of Internet development needs to be changed from "quantity" to "quality". The network eliminates the limitation of time and space, and constructs an extremely large online world of user gathering and mutual communication. In education, society, entertainment, management and other fields, various specific applications constantly bring forth new ones. Such as BBS forum, discussion group, Blog, micro-blog, online game community, online commentary community, online question and answer community, online gambling community, online shopping community, WeChat official account, various APP applications, etc., provide people with a new way of existence, including communication mode, learning mode, working mode, entertainment and leisure mode, and so on. And so on. However, the most important application area of the network world is learning and education 2.Since 2013, major institutions, such as Baidu education, Tao bao and Ten cent, have either built their own platforms or made strategic investments to focus on online education. Lei Jun, the founder of Xiaomi technology, has invested 1 billion yuan to build "100 education" since 2014. In July 2013, Ding Lei of Neteas invested in 91 foreign teachers. On the other hand, according to public information, the revenue of online brand chalk network for civil service examination in 2015 was 56 million yuan, and the revenue in the first two months of 2017 had exceeded 100 million yuan, which focuses on one-to-one online English learning for children aged 4–12, grew more rapidly, with little revenue in 2014 and no revenue in 2016Revenue has exceeded 1 billion yuan [2].

At the national level, China Ministry of education and Ministry of finance support the construction of higher education curriculum resource sharing platform Yi ai curriculum network, including "China University video open course", "China University resource sharing course", "online open course", "China University mooc" and "China Vocational Education mooc".Aiwang is a platform for the sustainable construction and operation of

higher education resources. It provides high-quality resource sharing services for anyone at any time and place, and meets the needs of personalized teaching resources.

## 3 Definition of Core Concepts

### 3.1 Participate in

In our daily language, "participation" is a very high frequency word. The explanation of "participation" in Chinese dictionary is that "participation" also serves as participation, participation in Henan Province; anticipation and discussion; intervention and participation. The English verb corresponding to "participate" is "participate", which means: to participate in (a business or activity), often with others; to participate in something or have a share in it. The corresponding English noun of "participation" is "participation", which means the action or state of participation. The concept of "participation" can be defined and analyzed from many perspectives.

Generally speaking, as long as all the people present are allowed to "move", everyone has the opportunity to explore, cooperate, experience, express and communicate. This is participation. The concept of participation is widely used in the fields of organizational behavior, modern management and so on. It means that the individual is involved in a certain state, which is the process of the subject initiative to the activity. According to the cognitive strategies used by learners in learning, pintrich (1994) divides participation into surface participation and deep participation. Surface participation is an explicit manifestation of behavior, such as simple exercises and exercises, and cognitive strategies are at a lower level. Deep participation is manifested as creation and reflection, which is a kind of self-control behavior. Marks (2000) believes that participation is a psychological process, which refers to the degree of attention, interest, energy input and effort involved in learning. In fact, emotional participation and behavioral participation are implied in learning experience. Both cognitive participation and emotional participation are realized through behavioral participation (Fig. 1).
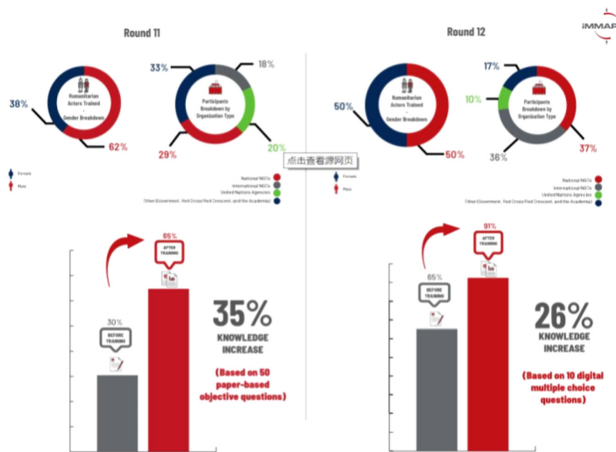


**Fig. 1.** There is emotion in learning experience

## 3.2   Types of Learner Participation

Previous studies focus on learners participation behavior in the network environment, which is often divided according to different dimensions. Armstrong and Hagel (1997) divided it into four categories according to the degree and value of participation [3]. Visitors: new learners, usually browsing at will, have the lowest value; divers: stay for a long time, but generally do not actively contribute content, and can collect browsing path, personal data and other information from them, which is of higher value than visitors; contributors: usually the most passionate, most active sharing and dedication of their own creative content, stay for a long time, which is the second most valuable Value members; buyers: actively participate, actively contribute to the content and purchase the corresponding services for the most valuable (Fig. 2).
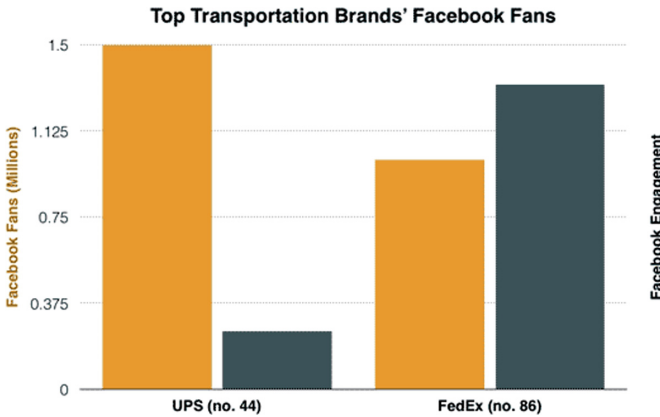


**Fig. 2.**  Purchase the most valuable corresponding services

## 4   Research Results and Conclusions

MOOC, as a new type of online education course, has the characteristics of openness, personalization and networking, which provides a new opportunity for educational reform and innovation in the Internet era, and also promotes the development of national learning and lifelong learning. One of the main problems of MOOC is the low passing rate of course learning. On the basis of recognizing the value created by MOOC, we still need to explore how to promote the continuous participation of MOOC learners from the perspective of research and practice, which is of great significance to enhance the survival and development of MOOC. Based on this, this paper studies the continuous participation behavior of mooc learners, and obtains rich and meaningful research conclusions.

First, the continuous participation behavior of mooc learners has experienced three stages of evolution, namely initial participation motivation, stay motivation and continuous participation motivation. The evolution of participation motivation indicates that initial motivation and staying motivation only encourage learners to participate in learning activities, but they are not enough to maintain and explain the subsequent continuous

participation behavior. The maintenance and stability of learners participation behavior ultimately depends on the satisfaction of psychological needs and the generation of motivation for ability realization.

Secondly, this study introduces intrinsic motivation, perceived entertainment, self-efficacy, contributing factors and so on.

The results show that perceived usefulness, Expectation Confirmation and satisfaction are still the core factors that affect the intention of continuous use in the classical Expectation Confirmation model, and the intention of continuous use has a significant positive impact on the continuous participation behavior; the extended Expectation Confirmation model has a significant positive impact on the continuous participation behavior Confirmatory model is effective in the prediction and explanation of mooc learners continuous participation behavior, and has a complementary role to expectation confirmatory model; intrinsic motivation and perceived entertainment factors have a significant positive impact on satisfaction; self efficacy and contributing factors have a significant positive impact on continuous participation intention, while contributing factors have no significant positive impact on continuous participation behavior; perceived ability has a significant positive impact on continuous participation behavior The perception ability is similar to self-efficacy, that is to say, they think that they can do it, and they are competent for the learning of mooc course. This inner potential mode of thinking, positive self affirmation and suggestion can significantly and positively affect the continuous participation [4].

Thirdly, for persistent participants and unsustainable participants, from the analysis of hindrance factors, modal analysis, case analysis.

This paper makes a comparison from three aspects. Whether continuous participants or non continuous participants, the biggest obstacle encountered.

## 5  Conclusion

Applied statistics major in Local Application-oriented Universities tends to cultivate application-oriented talents, which requires students to make full use of the theoretical methods of statistics according to the actual digital resources, carry out empirical research and give corresponding decision-making schemes or reference opinions. The "project progressive" teaching method can connect students learning process through multiple progressive projects. Students can master the relevant statistical theory knowledge by completing each course project. According to the characteristics of Local Application-oriented Universities, the practice of "project-based progressive" teaching method will provide a very meaningful guidance for the cultivation of professional talents to a certain extent.

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