

Analysis of Fragmented Learning of College Students under the Background of Online Education

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DOI: [10.36348/jaep.2022.v06i02.001](https://doi.org/10.36348/jaep.2022.v06i02.001)

| Received: 19.12.2021 | Accepted: 31.01.2022 | Published: 04.02.2022

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Abstract

The high-speed rhythm of life makes it difficult for people to have a whole time to study, and fragmented online learning comes into being in people's lives. Therefore, the research on fragmented online learning is particularly urgent and important. In order to have a deeper understanding of fragmented online learning, this paper investigates the current situation of college students' fragmented learning, and deeply studies the factors that affect the learning effect of online courses, and proposes learning effect enhancement strategies. The results of this paper are not only conducive to enhancing the effect of online learning of contemporary college students, but also conducive to teachers to optimize teaching methods, and provide reference for the development of fragmented learning of college students.

Keywords: Fragmented online learning, college students, coping strategies.

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INTRODUCTION

With the rapid development of the "Internet +" era and the rapid popularization of intelligent electronic products, people's lifestyles have undergone earth-shaking changes. At the same time, higher education is developing in the direction of informatization, networking and socialization. Online Learning has become a generally accepted learning model (Li S, Li M. 2020). The rapid rise of new open online courses such as MOOCs in the world has prompted the quiet occurrence of teaching reforms. Various types of large-scale online open course platforms such as "Chinese University MOOCs" and "Superstar MOOCs" have been launched one after another (Xu R, 2020). In 2015, the Ministry of Education of China promulgated the document "Opinions on Strengthening the Construction, Application and Management of Online Open Courses in Colleges and Universities" (Jiao Gao [2015] No. 3), to promote the construction of large-scale online open courses in my country to be "government-supported, university-based institutions" and social participation" is a sound development path with Chinese characteristics. In 2017, the Ministry of Education launched the first batch of national quality online open courses certification.

People's free time is inevitably divided into pieces by factors such as work, scientific research,

social interaction, family, etc. In this case, comprehensively improving one's ability has become a luxury (Zhu Y, 2020). As a result, the fragmented online learning method came into being. Fragmented online learning is a learning method that divides the learning content or learning time into several "fragments", allowing learners to make full use of the "fragmented" time and learn the "fragmented" content (Huang, 2016). By summarizing the development status and trends of global MOOC providers in 2017, the Education Management Information Center of the National Ministry of Education believes that the audience of online education not only includes traditional college students, but also those who may have left the university era but still aim to achieve professional and career growth. And the people who continue to learn. Facing a broad target audience, online education platforms began to focus on making their products more flexible and convenient, making many online courses available at any time of the year through scheduling adjustments, and dividing long courses into multiple short courses, So that learners can start learning at any time (Morreale S P, et al., 2021). People make full use of fragmented time to fill their gaps, so as to relieve their knowledge anxiety, keep up with the pace of the information age, and maintain a state of learning at all times. Fragmented online learning is a

new demand for future education and an unavoidable new learning method.

Fragmented time is destined to only acquire fragmented knowledge, so how much learning effect can such a learning method produce, and how much willingness of users to continue learning? Based on these urgent problems to be solved, this paper firstly searches for relevant literature and data to understand the basic situation of college students' willingness to learn online courses and their learning needs. Then, we determined to formulate a questionnaire, analyzed the results of the initial test, and deeply explored the internal mechanism that affects the user's online learning effect in the fragmented situation, and revealed the factors that affect the learners' fragmented online learning behavior and continuous learning willingness. Finally, it explores the advantages and hidden dangers of online courses, and proposes strategies to strengthen the learning effect.

RESULTS AND DISCUSSION

Basic analysis of the questionnaire

This survey hopes to obtain the status quo of fragmented learning of college students, the degree of

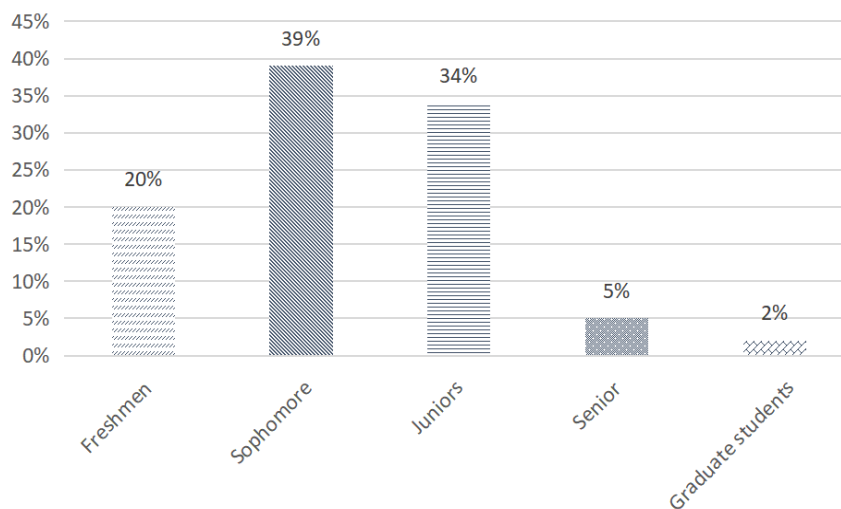


Fig-1: Grade distribution of the respondents

Among all the respondents, the grades are mainly concentrated in sophomores and juniors, accounting for about 73% of the respondents, and graduate students account for the smallest proportion, accounting for only 2% (see fig 1). Therefore, the subjects of our research are sophomores and juniors.

Since we are a normal school, there are more girls, and this survey is mainly carried out in our school. Among the respondents, males accounted for 34%, females accounted for 66%, the ratio of males to females was about 3:7, and the proportion of females

recognition of fragmented learning, and the tools for fragmented learning, so as to put forward practical suggestions for improving the situation of fragmented learning of college students. By consulting a large number of references, we clarified the concept of fragmentation and related indicators, and developed a questionnaire based on the indicators. The questionnaire is spread on the Internet through the link generated by the questionnaire star, the students are invited to participate in the survey, and the teacher is asked to help spread the questionnaire. Finally, the data obtained from the questionnaire is analyzed to obtain relevant conclusions. During the formal investigation process, questionnaires were distributed online, and a total of 372 questionnaires were collected online. Then, the questionnaires that were overfilled or missed by the respondents were eliminated. Finally, 350 valid questionnaires were recovered, and the valid questionnaire rate was 94.2%.

(1) The basic distribution of the survey sample.

was relatively large, that is, the subjects of the interviews were females. Among the respondents, the respondents of science and engineering disciplines accounted for 77.71% of the total data, indicating that this is a sample survey with science and engineering respondents as the main body. Most of the respondents spend their leisure time by reading interesting bits and pieces of knowledge on social tools such as WeChat and QQ, indicating that most of the respondents are daily users of online learning.

(2) Recognition of online courses.

Table-1: Survey of Online Course Recognition

Types	Numbers	Proportion
Like	221	64.43%
Dislike	122	35.57%

As shown in Table 1, most of the respondents have a high degree of recognition of online courses, but there are still some respondents who have a psychological rejection of online learning. It can be seen that online courses have not yet been recognized by some users.

(3) The utilization of online courses

In the survey results, 62% of the respondents indicated that they would communicate with their classmates in online courses, but 38% of the respondents did not communicate with other classmates. These indicate that the interaction of respondents in the online course mode needs to be strengthened.

Table-2: Length of online learning

Types	Numbers	Proportion
Within half an hour	95	27.70%
0.5-1 hour	111	32.36%
1-2hour	96	27.99%
More than 2 hours	41	11.95%

As can be seen from Table 2, the daily online learning time of the respondents is concentrated between 0.5-1 hour, and even 11.95% of the respondents can reach more than 2 hours of online learning time per day. The demand is relatively large and relatively stable. The survey results show that 96.79%

of the respondents' common devices for online learning include mobile phones, 79.59% of the respondents' common devices for online learning include computers, 18.95% of the respondents' common devices for online learning include tablets, and only 5.83% of respondents use online learning as another common device.

Table-3: Content of online learning

Types	Numbers	Proportion
Specialized courses	307	89.50%
Hobbies (speech, etc.)	196	57.14%
Related exam information	193	56.27%
Encyclopedia of life	141	41.11%
Others	63	18.37%

According to the statistical results of Table 3, 89.5% of respondents online learning content includes professional courses, and about 50% of respondents online learning content including personal interests, related examination information and life encyclopedia

class these online courses, it also shows broad online courses, can achieve the needs of most users.

(4) The evaluation of online courses

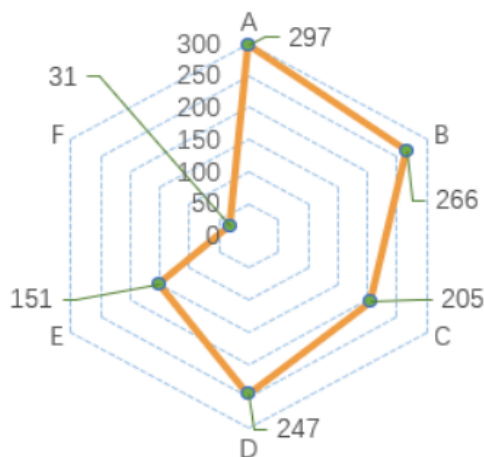


Fig-2: The benefits of online learning

The survey on the benefits of online courses on respondents' subjective perceptions can be seen from Figure 2. Respondents agree with the learning mode of online courses. Most respondents believe that online courses are convenient and can be learned anytime, anywhere. . The lower cost was not recognized by most

of the respondents, that is, although knowledge payment has been accepted by many students, they still hope that online things can be cheaper.

(5) Existing Problems with Online Learning

Table-4: Problems with online learning

Types of Problems	Numbers
Fragmented knowledge is not systematic enough, and it is difficult to learn	157
Students' self-control is too poor to take the initiative to learn	273
Teachers can't guide students face-to-face, and students' learning effect is too poor	206
The network speed is not smooth and affects the learning progress	178
Easy to be interrupted by external factors	239
There is no sound relevant system to give its value positioning	82
Others	22

From the survey on the existing problems of online courses on the subjective consciousness of the respondents, it can be seen from Table 4 that most of the respondents said that the main problems are that students have poor self-control and will not take the initiative to learn. Teachers cannot guide face-to-face, learning is less effective and is easily interrupted by external factors. These are all problems that can be solved in classroom teaching, but they have become the main problems of students in online courses, which reflects the main contradiction between online courses and classroom teaching.

Analysis of the reasons for college students' fragmented online learning

(1) Analysis of the advantages of online course learning

86.59% of students choose "convenient online learning, learning anytime and anywhere", which shows that the main advantage of online learning is to break the limitation of time and space, and online learning has been highly recognized by contemporary college students. 77.55% and 59.77% of the students who chose "repeatable learning and memory enhancement" and "helpful to check and fill vacancies" respectively indicate that online learning is highly flexible, and students can consolidate what they have learned according to their own circumstances, thereby improving their learning effects. 72.01% of the students who choose "can choose any content they are interested in" indicate that online learning courses are rich in resources, and students can choose online courses according to their needs, knowledge background, personal preferences, and learning styles, and targeted learning , which is conducive to improving the efficiency of learning interest. 44.02% of students choose "lower cost", which means that the cost of online learning is lower than the cost of traditional learning, which is the highlight of online courses (Gao T, Xu J, 2020). The price of paid online courses is also

very favorable, which is in line with the consumption concept of college students.

As a very popular way of learning, online course learning has the advantages of breaking through time and space constraints, repeatable learning, easy to check and fill vacancies, easy to learn according to interest, and low cost. Online course learning can meet the personalized learning needs of college students and help to cultivate autonomous learning ability. Therefore, online courses are in a favorable situation in the education industry.

(2) Analysis of the harvest of online course learning

As many as 81.34% of students choose "expanding professional knowledge, assisting classroom learning, and improving learning efficiency", indicating that online course learning is an important learning method for college students, which can broaden students' knowledge and assist traditional classroom teaching modes. 65.01% of students chose to "acquired diversified knowledge" and "follow the pace of development of the times and broaden their horizons", indicating that online course learning helps college students adapt to the development trend of the times, reserve diversified knowledge, and understand the level of their current knowledge system. The proportion of students who chose the option of "improving the ability to retrieve, process and use information" is 56.56%, indicating that online course learning can help improve college students' information literacy and quickly obtain useful information related to their own needs.

At present, online learning has been widely recognized by college students and plays a vital role in improving their comprehensive quality. Online course learning can help students expand their professional knowledge, assist classroom learning, improve their learning efficiency, broaden their horizons and improve their information literacy.

Optimization strategies for fragmented online learning of college students

Fragmented learning for college students has become an important learning method in the era of mobile Internet. How to better conduct fragmented learning is a question worth thinking about. We give optimization strategies for college students' online learning from the following four aspects.

(1) Improve the fragmented learning ability of college students

Information literacy is a necessary literacy for college students to study under the mobile Internet. In order to cultivate and improve the information literacy of college students in fragmented learning, schools should firstly cultivate college students' practical ability to use information technology to solve problems and make judgments in the face of massive network fragmented information. Secondly, the school should try its best to create a good information culture atmosphere for college students, invest more material and financial resources, strengthen cooperation and exchanges with other universities and foreign institutions, and provide a good information interaction environment for college students (Mahmood S, 2021).

In addition, the level of students' cognitive level is also closely related to their learning effect. The higher the cognitive level of students, the higher the learning autonomy, and the easier it is to achieve the desired learning effect. Therefore, schools need to focus on improving the cognitive level of learners' fragmented learning. Present knowledge from the simple to the deep, reduce learners' perception of the difficulty and difficulty of knowledge, and protect their enthusiasm for learning. Use text, pictures, audio, animation and other forms of presentation to promote multi-sensory participation and promote learning effectiveness. By combining with teaching practice activities, students' critical thinking and innovative thinking are cultivated and their thinking ability is improved.

The quality of personality of college students is also closely related to the quality of learning. Good personality quality and perseverance will help improve the learning effect. Schools should cultivate students' perseverance and perseverance. Only when college students have a strong willingness to learn, a serious learning attitude, good information literacy, high cognitive level and excellent personality qualities can their learning ability meet the requirements of fragmented learning in the context of online courses.

(2) Relevant systems should be formulated at the management level

Optimizing the current situation of fragmented college students' learning requires not only the students' efforts themselves, but also the support of the school

and the society. The recognition of fragmented learning for college students still needs to be improved. The Ministry of Education can introduce relevant policies to promote fragmented learning, and schools can also formulate relevant rules and regulations to affirm them, and incorporate them in the comprehensive evaluation of students. Let the students realize the importance that the school and the society attach to it, which will improve their willingness to take the initiative and multi-angle fragmented learning, help to create a good learning atmosphere, and help to build a learning society.

(3) Provide smart and friendly fragmented learning support

In order to search and apply the required materials accurately and efficiently in a large number of learning resources, students need to master effective retrieval methods. Under the current situation that most students cannot effectively choose from a large number of online learning resources, navigation, mind maps, hyperlinks, etc. can be added to the design of learning resources, which can make the classification of learning resources more regular and clear, so that it is beneficial to improve the learning efficiency of learners.

Learning activities run through the whole process of students' learning, and also play an important role in the design of the network learning environment. The design of high-quality learning activities can stimulate learners' motivation to learn, so as to improve the learning effect. In the design of online courses, teachers can carry out teaching activities by using flexible teaching strategies and teaching methods to mobilize students' enthusiasm for learning. In online courses, navigation columns such as "Excellent Homework Display" can be set up, so that students can learn in a harmonious atmosphere. Through these forms, a friendly learning discussion area for teacher-student interaction and student-student interaction is formed to improve the learning effect.

Teachers are one of the indispensable elements in promoting students' fragmented learning, and play an important role in ensuring learning effectiveness. The way teachers teach in online courses, the number of homework assignments and the way of correction will affect students' acceptance and learning enthusiasm. Therefore, teachers' support is of great significance to the improvement of students' fragmented learning effect. Online learning makes the Internet a necessity. The campus should ensure the smooth flow of the campus network, and the school library should establish an online e-book and data lending platform so that students can download high-quality resources (Hu J, Chen S, 2020).

(4) The integration and construction of the personal knowledge management system

Fragmented learning in the era of mobile Internet is an effective learning method suitable for college students, and an important way for college students to acquire new knowledge. The construction of a reasonable knowledge management system is of great significance for students to achieve good learning effects. In the mass of fragmented information, we must improve our ability to mine, filter and construct information, and learn to filter valuable information from massive network information, existing knowledge systems, and forgotten or deleted fragmented knowledge. Classify and reorganize the required information, effectively integrate new and old knowledge, and reasonably construct a knowledge management system. It is necessary to think more and summarize more, clarify the source and use of knowledge and the correlation between old and new knowledge, and build a personal knowledge management system, combining traditional systematic learning and fragmented learning, so as to achieve better results.

CONCLUSION

This paper collects data and conducts a comprehensive analysis through the research and investigation of the fragmented learning situation of college students. We analyzed the advantages and hidden dangers of online courses for college students from the perspective of fragmented communication, and put forward suggestions to enhance the learning effect of online courses.

ACKNOWLEDGEMENT

The works described in this paper are partially supported by 2021 Provincial College Students'

Innovation and Entrepreneurship Training Program in Henan Province (No. S202110479028).

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