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To MOOC or not to MOOC: An Empirical Study of Chinese Students' MOOC Learning

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Abstract: *MOOC is becoming increasingly popular around the world. However, its status and effectiveness in higher education are still controversial. This study investigates Chinese postgraduate students' MOOC learning experiences (factors driving them to learn and future optimisation suggestions) on the Chinese University MOOC (iCourse) platform. By conducting semi-structured interviews with five Chinese graduate students, data was gathered. According to the findings, students choose to learn on MOOC because of its flexibility and their need for professional expertise. MOOC learning can be improved by providing more flexible courses, improving interactivity, and providing more assistance for learners. Future research could use larger samples to investigate students' learning accomplishments and the effectiveness of MOOC learning.*

Keywords: *MOOC, Chinese University MOOC, Chinese postgraduate students*

1. Introduction

Massive open online course (MOOC) has attracted widespread attention and research for its massive and online nature. MOOC in China has seen unprecedented growth in the past few years, and the rise of MOOC platforms has injected new blood into the transformation of Chinese higher education. The Chinese University MOOC (hereafter referred to as iCourse, www.icourse163.org) is one of China's most popular and well-known MOOC platforms. Chinese educators, the education market and the government have shown a strong interest in the future development of MOOC. Therefore, understanding students' motivation, learning strategies, and attitudes are essential to the research and practice of MOOC learning and teaching [1].

When searching for academic studies related to MOOC on 'China National Knowledge Infrastructure (CNKI, https://www.cnki.net), we found that many research studies were based on a wide range of MOOC platforms focusing on a specific MOOC platform. In addition, Yu [2] suggested that many motivation-related research questions are included in MOOC learning behaviour studies. Thus more research is needed to gain a more comprehensive understanding of MOOC graduate learners' learning experiences and attitudes toward MOOC in Chinese universities. Wang et al. [3] suggested that students' problems with learning MOOC are related to the MOOC platforms themselves, such as limitations of social presence and lack of support and interaction within the platform. Therefore, the significance of this study is to expand the depth and breadth of research on learners' experience with MOOCs by examining Chinese university students' experiences on iCourse.

2. Literature Review

2.1. Insight of iCourse

iCourse is one of China's essential non-profit MOOC platforms, with many online open courses that enable learners to access educational resources, share learning experiences, and obtain certification [4,5]. As of December 2017, the platform has partnered with 148 institutions to offer 1,042 courses in 12 categories [6].

Using the keywords "Chinese University MOOC (中国大学慕课)" and "iCourse(爱课程)", we searched for literature published since 2014 on CNKI and finally screened 69 articles. Using CNKI's tool to count the frequency of keyword occurrences, we found that the research hotspots of MOOC in China mainly

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focus on the characteristics of MOOCs themselves and their teaching models, SPOCs (small private online courses), shared boutique courses, and extensive data-supported teaching services [6,7].

2.2. Factors Affecting Learning on MOOC

Overall, the completion rate of MOOCs in China and abroad is around 10% [8]. Furthermore, the average rate of effective learners for MOOCs in China is only 9.76% [9]. Similarly, in Reich's [10] study, active students who wished to complete the course and earn a certificate account for 22% of the survey participants. The low completion rate in MOOCs is a concern, as user engagement is a crucial indicator of the long-term viability of MOOCs [9,11].

Multiple factors may influence participants' retention on MOOC, namely the four dimensions of learning (learner, course, instructor and technology) [12]. In terms of the learner dimension, Ma and Lee [13] found that individual factors such as learners' attitudes, self-control and financial level could influence learners' continued use of the MOOC. Reparaz et al. [14] argued that learners with greater self-regulation could demonstrate higher perceived efficiency and course completion in MOOC learning. In a low-level MOOC instructional environment, learners can use SRL to effectively coordinate their learning and actively develop SRL skills through personal initiative [15]. Littlejohn et al. [16] argue that learners with high self-regulation are highly motivated by developing acquired expertise. In contrast, learners with low self-regulation are more likely to be driven by external motivators rather than applying their learning to specific work tasks.

Some MOOC characteristics are also worth considering in terms of MOOC platforms themselves. Some studies focusing on improving the MOOC learner experience suggest that Chinese MOOC platforms can be further optimised to optimise the UI design, enrich course learning resources, and enhance the platform's interactive features [4].

2.3. Factors Motivating Students to Learning on MOOC

In traditional higher education courses, learner motivation is usually standardised, whereas the diversity of MOOC learners leads to a variety of motivations and different levels of engagement in MOOC participation [17,18]. Motivation is one or more driving forces used to sustain goal-directed activities [19,20]. For students, motivation is a concept that reflects the personal goals, feelings and aspirations that students pursue.

Several studies have shown that MOOC learners are more intrinsically motivated than extrinsically motivated [16,21]. Most learners who participate in MOOCs do not tend to pursue socially unrecognisable certifications (one of the most representative forms of extrinsic motivation) but are somewhat quite interested in learning MOOC content [22,23]. Hew and Cheung [24] state that engagement in MOOC is a relatively common motivating factor among MOOC learners for personal benefit. Studies by Barba et al. [25] cover intrinsic motivations such as personal and situational interests, achievement goals, value beliefs, and interaction with like-minded people. Some findings in the Chinese MOOC context suggest that autonomous motivation, such as intrinsic motivation, plays a vital role in persistent intention [2,26]. However, some researchers have also pointed out that external motivations (e.g., gaining credits, social learning motivation, conflicts between course planning and personal planning, and ease of use of MOOCs' platforms) also affect Chinese learners' continuation in MOOCs [4,25,26].

Zheng et al. [27] describe several external motivation categories: the free and open nature of the MOOC, the convenience and the prestige of the course being run by a quality institution. In addition, Deshpande and Chukhlomin [28] and Guo et al. [29] mention that MOOC platforms encourage students to learn through interaction and whether learners receive timely feedback, the reasonableness and ease of use of the platform features, and the level of teaching services are also objective factors that influence MOOC learners' motivation.

2.4. Research Questions

Research on MOOCs has provided little insight into the learner experience [30]. Similarly, Meng [7] suggests that the current research hotspots for MOOCs in China still focus on aspects such as the characteristics of the MOOC itself, course model and design, teaching effectiveness, and user learning behaviour. Further, there is still a need for multiple methods, including qualitative methods, to help researchers study the phenomenon from various perspectives [30]. In addition, few studies have focused on a specific Chinese MOOC platform such as iCourse. Therefore, this study fills a gap in the literature

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by exploring the learning experience of Chinese postgraduate students learning on iCourse, further diving into factors that drive them to learn on iCourse and suggesting strategies for future optimisation. Two research questions are therefore proposed:

1) What are the factors motivating Chinese postgraduate students to study on iCourse?

2) How to optimise students' learning on iCourse?

3. Methodology

A qualitative research paradigm is well suited for this research depending on the research question. Antwi and Hamza [31] argue that qualitative research is often used to understand people's experiences and motivations.

3.1. Data Collection

We conducted semi-structured interviews to collect data. Runeson and Höst [32] mention that semi-structured interviews offer greater flexibility in the interview process by allowing the interviewer to improvise interview questions and encouraging the interviewee to provide more information in their voice. As the interview progressed, interviewees could elaborate on their experiences or perceptions.

After obtaining ethical approval from the committee, we began recruiting interview participants with the convenience sampling method. After receiving their agreement by signing on the informed consent form and personal information sheet. We recruited 5 participants. They are postgraduate students at a UK university from different programmes, including education, engineering and business. They were informed that they could quit the interview anytime if they wanted to.

The interviews were conducted with the online meeting software ZOOM. We first encouraged participants to recount their learning experiences on the iCourse platform during the interview process. We guided them to recall more relevant details to explore what drove students when studying MOOCs initially. Then they were encouraged to think about how to improve their MOOC learning experience from different perspectives.

3.2. Data Analysis

Data generation and analysis in qualitative research are often dynamic and need to be conducted simultaneously [33]. Braun and Clarke [34] propose thematic analysis to identify, analyse, and report patterns or themes in data through an inductive approach. The inductive analysis approach suggests that the themes identified are very close to the interview data and reflect what is in the data, rather than fitting it into previous researchers' ideas and pre-existing coding frameworks [35].

Considering the large amount of textual data generated during the interviews, we stored and analysed the data with the help of NVivo software and conducted an inductive thematic analysis of the transcribed interview texts. According to the guidelines given by Braun and Clark [34], the steps of inductive thematic analysis were as follows. Firstly, we read and reread the text over and over again. Next, we used NVivo to mark data with the same or similar meaning and initially coded it. Next, we extracted and organised the relevant coding information into initial themes and sub-themes. We then reviewed these themes to determine if they were relevant to the research questions. Finally, the researcher defined and named the themes and sub-themes.

4. Findings

Section 4.1 and 4.2 answer research question 1, "What are the factors motivating Chinese postgraduate students to study on iCourse?". Section 4.3, 4.4 and 4.5 answer research question 2, "How to optimise students' learning on iCourse?"

4.1. Flexibility in Learning on MOOC

In terms of the convenience of MOOC learning, participants pointed to the flexibility of time and space. A flexible learning environment can facilitate learning on a MOOC platform. In particular, they noted that temporal and spatial flexibility enables control over video content by providing autonomy for

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repeated and selective viewing. Participant 2 said: "Instead of going to offline classes at a fixed time, I can be free of time and location. " Participant 3 noted the convenience of controlled repeat viewing: "If I can't follow the teacher on this example question, I can watch it repeatedly until I understand it, which I think is good for me." Participant 4 felt that convenience was also reflected in the ability to choose to watch the most useful parts of the videos: "I only study the parts of the MOOC that correspond to the points I don't quite understand or master in my university course, rather than studying the whole MOOC from start to finish."

4.2. Achievements of Professional Expertise

MOOC can help meet learners' academic and professional needs, which is one factor that motivates them to study at MOOC.

Participant 4: "I chose to study English Literature out of interest, but I wanted to learn more about the UK to help me adapt to living abroad... The Business English course was accessible but relevant to my work... so I could learn a more systematic and valuable knowledge of English and apply it in my interactions with people. "

Participants generally felt that they could acquire more knowledge and skills on MOOC, which was another factor that motivated them to undertake MOOC learning. Competition with their peers was seen as satisfying their short-term goal of demonstrating personal competence while acquiring more knowledge and skills would enhance their self-competitiveness and thus their long-term goal of self-improvement. Both participants agreed that the MOOC complemented and expanded their course knowledge to gain more knowledge and skills.

Participant 5: "If I missed something in class, I would go to the MOOC platform to find a similar or related course to supplement my course."

Another participant further noted the role of MOOCs in improving students' understanding of university courses.

Participant 3: "Sometimes I feel that I don't learn enough knowledge and skills from my teachers, so I will learn related courses on MOOC to expand my course knowledge... And I like to choose courses from some famous universities, such as Tsinghua University, Beijing Normal University, etc..... There is an inexplicable sense of trust in their courses. "

4.3. Providing Flexible Courses

Participants mentioned that the mismatch between course content and user needs further reduced participants' willingness to continue. Regarding the lack of depth in course content, three participants said that "MOOCs provide only simple and basic knowledge with limited "competency enhancement" (Participant 4) and that "in terms of content type, MOOCs tend to introduce theoretical knowledge, but there is a lack of practical and experimental courses" (Participant 4). “I find these courses too boring" (Participant 3).

Participant 2: ‘‘different teachers teach different parts of the same course, but the quality of teaching varies from teacher to teacher, so you have to spend much time sifting through the useful lessons."

Regarding the monotonous pattern of content delivery, they felt that it needed to be improved.

Participant 4: "It was obvious that this teacher was just reading PPTs in class, and I found his teaching style as boring as if I were reading a boring book; I couldn't understand it."

Participant 2: "If the teacher just explained the knowledge to us straightforwardly, I would probably lose interest in listening to him, and my attention would be distracted."

In addition, students complained that iCourse was not flexible enough to provide richer course content or to recommend courses intelligently.

Participant 4: "Many course descriptions are generally described in general terms ..... You need to click on the course details page and watch the course video to determine if it is the course you want."

Participant 5: "The search model on this site is rigorous, unlike other similar sites that will suggest courses based on your search history."

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4.4. Improving Interactivity

Participants realised that the lack of interactivity between learners and teachers, learners and learners are critical factors in reducing learners' willingness to continue learning on the MOOC platform. The current MOOC interaction model is not engaging enough for learners.

Participant 3: "When I am watching a course, a multiple-choice question pops up from time to time for me to answer, and I can choose an answer at random… So what is the meaning of this setting? "

As for the lack of interaction between learners, participants realised the importance of belonging in the MOOC community as it could provide them with moral support during the learning process. Two participants initially recalled: "It is difficult for me to find partners or friends in an online learning environment" and "I would prefer to talk about the course and assignments with my roommates or classmates" (Participants 4 and 5).

Participant 3: "The MOOC forum lacks a supportive atmosphere and does not contribute to a good learning community atmosphere, affecting motivation and confidence to continue learning."

In addition, the main reason for the lack of interactivity between students and teachers was that teachers did not provide timely feedback on students' problems.

Participant 3: "Almost no one answered the questions raised by the learners in the forum, and the teachers only answered one or two questions occasionally."

4.5. More Assistance for Learners

Participants also agreed that the support provided by the MOOC platform could improve their learning experience. However, the current service obviously cannot meet their needs. Critical support included providing more learning resources, optimising the platform's functionality and enriching the form of online communication. For example, two participants mentioned that MOOC platforms should improve the quality of courses and increase the types of systems offered.

Participant 3: "I think the barrier of entry for some courses is a bit low, and some low-quality courses should not exist on this MOOC platform. Holding regular online seminars and inviting opinion leaders to share their experiences or answer questions would also be a helpful way to reform the MOOC model. "

Participant 5: "I want to study business informatics, but I can't find it on this MOOC platform; I think it would be better if there were more resources for courses... but I can't reach the platform to make a suggestion either."

5. Discussion and Conclusion

This study intends to investigate Chinese postgraduate students' MOOC learning experiences on iCourse, the elements that influence students' MOOC learning, and how to improve their MOOC learning experiences. Previous MOOC learner research has focused on various MOOC platforms and user groups rather than specific media and user groups. Our research leads to a better understanding of Chinese postgraduate students' learning experiences while focusing on the iCourse platform.

The findings describe the flexibility of MOOC learning, which motivates students to participate. This backs with recent results by Zheng et al. [27], who classify MOOC convenience as an extrinsic motive for learning on a MOOC platform. According to previous research, most MOOC participants are motivated by the course material [17,22,23].

Meeting students' professional and academic demands, according to the findings, is another feature that is congruent with Eccles and Wigfield's task value theory [36]. The intrinsic qualities that encourage students to study the MOOC are their interest in the MOOC's diversity and novelty, their enjoyment of the instructor's teaching style, and their optimism about the MOOC model's progress. According to startling research, students' attraction to prominent universities may also inspire them to study on MOOC platforms.

Students believe that the MOOC platform provides some assurance in course quality and the type and enriching forms of online communication, encouraging students to continue learning on the platform. According to a previous study, MOOC content and organisation will affect learners' determination to

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continue learning [12]. Students, on the other hand, believe that many encounters are meaningless. The question box that appeared in class, for example, is a useless gesture. Furthermore, after class, there are few possibilities to engage with other teachers and students, which affects their enthusiasm to continue learning.

They also hope that course recommendations will become more flexible. Participants' enthusiasm to continue learning is further reduced by the mismatch between course material and user needs. At the same time, some courses are tedious, but they cannot discover similar courses, preventing people from enrolling in MOOCs. As a result, if the MOOC platform can provide a way for learners to give feedback and receive more frequent support, it will match their demands as customers.

This research provides a minor branch for investigating Chinese students' MOOC learning experiences. However, as Salim et al. [37] point out, it's essential to examine how MOOCs affect students' motivation and involvement and how these aspects influence their academic success. Furthermore, despite our efforts to choose respondents from various educational backgrounds, future research should consider sample size and diversity. Second, all interviews were conducted online due to the social distance maintained during the COVID-19 pandemic. Due to the lack of visual signals in the discussion, researchers may be unable to determine respondents' moods and some body language in a timely and correct manner [38]. As a result, some nonverbal interview data in this study may be lost. This also serves as a reminder to future researchers about this frequently ignored issue. Future studies can provide more representative findings by expanding the breadth of the research platform or the sample size of the research population, making the further examination of this topic more beneficial.

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