The Role of Perceived Teacher Suppport, Motivation, Learning Strategy in Studying on SPOC*

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Abstract—**Digitized and informational learning methods are gradually prevailing. There was a historic revolution in 2012 that MOOCs (Massive Open Online Courses) created a new mode of distance education, offering open educational resources to students all over the world. While MOOC has a low passing rate and high dropping out rate, SPOC (Small and Private Online Course) combines online and offline courses and gives a specific group of student guidance, greatly enhancing the engagement of students. SPOC students have chances to communicate with teachers face to face. This paper discusses the mediating role of students' motivation studying on SPOC in the relationship between perceived teacher support and deep learning strategy, surface learning strategy as well as their effect on learning achievement.**

Keywords—perceived teacher support; motivation; learning strategy; learning achievement

I. INTRODUCTION

Massive online education classes have sprung up in recent years. As the largest online education network platform, MOOC has attracted much attention. It makes it possible to open up access to world-class teaching beyond geographical and national boundaries. The teaching videos and discussion forums are often free which is a particularly high potential value for students have no access to higher education (Hollands & Tirthali, 2014). Despite the potential, the retention rate in MOOC is typically low. With thousands and even more students enrolling, the percentage of students actually completing courses on the platform are usually less than 10% (Breslow, 2013). MOOC has broken the limitations of traditional education with open and diversified forms. Aiming for the majority of population, the online courses cannot meet the personalized needs of students.

Different from MOOC, SPOC faces students at the school. Professors will upload teaching videos and learning materials to the platform before class, and students are supposed to complete independent learning above those materials. In offline class, professors and students discuss the content of uploaded

material. The discussion will be more efficient than lecture teaching. At the same time, professors are much easier to master the degree of students' understanding of knowledge and give them targeted guidance, adjust the following teaching arrangement according to the students' situation. Students' perceived support from teachers which is correlated to their learning motivation.

Before deciding whether this mode can be widely promoted, it is necessary to determine whether it has sustainable development capacity. Among them, the motivation of students to use the platform for online learning is very important. Motivation influences students' demand for SPOC. What kind of advantages do students want to gain? It is the flexibility of time and place, personalized course content or self-accommodation of learning, etc. According to the characteristics of students, SPOC can be optimized and upgraded to meet the needs of students.

What's more, students' motivation about learning on SPOC will definitely affect students' learning achievement. Students with strong motivation, especially intrinsic motivation, will have a greater interest in the course, which triggers more communications with teachers and classmates, as well as deeper thinking about what they learned. Therefore, motivation often affects the use of the learning strategy the students. Strong motivation will promote deep learning strategy. Students with weak motivation, especially those who take SPOC courses with extrinsic motivation, are less active in online independent learning and think less while watching the teaching videos. In video self-study, surface learning strategy is often used without thinking about how to learn the course well. Therefore, the learning strategy has a direct impact on students' final learning results.

II. THEORETICAL BACKGROUND AND HYPOTHESES

A. Online Education Platform: from MOOC to SPOC

MOOC was initially targeted at a small group of college students. With the massive growth of MOOC platforms, student enrollment, and online courses, MOOC is facing a serious dropping-out crisis. The researches in recent years have

shown that there are some problems to be solved in MOOC, not only for universities who offer online courses, but also for students who participate in the online courses.

Peter E. Sidorko compared the strengths and weaknesses of MOOC, highlighting that if there is no prerequisite and size limit of MOOC, it will be both strengths and limitations to universities and students. Without prerequisite, students' knowledge base is uneven, which not only damages students' confidence in learning, but also affects teachers' enthusiasm in teaching. It becomes an important reason for the high registration rate and the low completion rate of MOOC (Peter E. Sidorko, 2013).

In the view of the many problems in MOOC practice, Harvard University, The University of California, Berkeley and other world-renowned universities have tried a more delicate course form — SPOC (Small Private Online Course) (Kang Ye-qin, 2014). The concept was first used by Professor Fox. Small and private are opposite to massive and open in MOOC. "Small" refers to the size of students generally ranging from dozens to hundreds. "Private" means that there are restrictive entry conditions for students. Only those who meet the requirements can be included in SPOC courses. SPOC is mainly for college students and online students two types of learners set. The former is a blended learning model that combines classroom teaching with online teaching. Teachers assign these video materials to students as homework. Then, they answer students' questions in the real classroom, mastering what knowledge students have absorbed and dealing with homework or other tasks. In general, teachers are free to set and control the course schedule, pace and grading system according to their own preferences and students' needs. The latter is to select learners of a certain scale from global applicants according to their conditions. Candidates must ensure that they have enough time and intensity to participate in online discussions and complete required assignments and exams. Students who pass the exam will receive a certificate of completion. Those applications who apply unsuccessfully can register for online courses as auditors.

Through restrictive admission conditions, not only students can be screened, easy to stratify teaching. It can also help to solve the problem of the high dropout rate and the low completion rate of MOOC. Moreover, the small scale in SPOC, on the one hand, it improves students' participation (Guan Xin, 2015). On the other hand, it facilitates one-to-one communication and question answering between teachers and students, enhancing students' depth of understanding at the same time.

Student's Approaches to Learning theory (SAL) (Marton and Säljö, 1976) highlights that students complete tasks in different approaches. These approaches to learning combine motivation and learning strategies. Some studies have identified two main approaches to learning: surface approach and deep approach (e.g. Biggs, 1984).

B. Motivation

Motivation has been identified as a critical factor affecting learning (Lim, 2004). Researches have proved that motivational beliefs are related to student learning (Metallidou

& Vlachou, 2007). Motivation refers to students' specific desire towards completing a particular course or finishing a given task at a specific moment. It can also refer to student's general aspiration towards studying or learning (Frymier, 1994). Students need to deal with obstacles and finish the studying progress, complying with academic and social expectations with the inspiration of motivation. In addition, students' learning outcomes are closely related to students' participation. The relationship between motivation and engagement becomes stronger and more significant as the classes carry out over time. It seems to indicate that students' motivation was related to their online and offline participation, but the relationships.

The previous researches divided motivation into two categories: intrinsic motivation and extrinsic motivation. The former refers to doing an activity in order to satisfy one's need, especially doing something for the enjoyment and internal satisfaction of performing a task. While the latter refers to doing the task to obtain external rewards or other positive outcomes, related to external values and demands (Ryan & Deci, 2000).

Students with high motivation usually are clear of the requirements and assignments for the online self-studying issue and offline discussion activity. Students with low motivation often feel that they were forced to participate in the online studying activity and have no will to communicate with the teacher in class because they just want to get their credits.

Intrinsic motivation is spontaneously from internal tendencies. It generates behaviors even without the assistant of external rewards or environmental control. Motivation is correlated to the incentive or energy that pushes individuals to take an action.

Students with high intrinsic motivation usually demonstrate greater persistence, better-regulated ability to come up with failure, deeper and more optimistic self-perceptions, and higher quality mission engagement (Tu & McIsaac 2002).

Both intrinsic motivation, for the sake of enjoyment, and extrinsic motivation, in order to perceive usefulness or external value, has been found to play an important part on students' attitudes towards online courses (Lee, Cheung, & Chen, 2005).

C. Perceived Teacher Support and Motivation of Studying on SPOC

Students' who enjoy positive supports from teachers and classmates tend to be more motivated and active when engaging in academic activities. The perceptions that their teachers pay attention to them provide clear structure, positive outcome (Skinner, Kindermann, Connell, & Wellborn, 2009), and offer help with academic problems, which is positively related to academic motivation and engagement outcomes.

The perception of teachers' supports includes communication of expectations and standards of behavior, as well as positive emotional interactions. It also assumes to foster positive beliefs about one's ability to complete the academic tasks (Connell & Wellborn, 1991). Similarly, when students feel supported by their teachers, they are more likely to internalize the information and beliefs that their teachers pass to them. Previous research has defined internalized values as

positive affect associated with academic issues (Deci & Ryan, 2000), and learning self-efficacy as beliefs about the ability to complete specific tasks (Bandura, 1986).

Compared with any other form of online education, SPOC provides students with face-to-face contact with teachers that are not available on other platforms. Students can directly feel the teacher's care and help in class. This kind of perceived support has a positive effect on enhancing students' learning initiative and has a positive influence on students' learning motivation. Therefore, we assume that:

H1: Perceived teacher support has a positive effect on students' motivation studying on SPOC.

D. Motivation and Learning Stratey

Realizing students' motivation and learning strategy is fundamental for the sake of helping to improve university teaching lecturers (Arquero, Byrne, Flood, & González, 2009). Studies have shown that motivation is a significant predictor of learning strategy use or achievement in online learning. Learning strategies can be defined as a various combination of methods students use while learning (Weinstein, Husman & Dierking, 2000) or as specific activities and techniques that students use to improve their ability to understand and internalize concepts (Oxford, 2002).

After years of summarization, researchers have divided the learning strategy into two categories. Through the learning strategies, students can achieve a "deep learning strategy" or a "surface learning strategy" when they study on SPOC. Students who are trying to grasp the main points and understand the knowledge with great interest and enthusiasm are identified as deep learning strategy learners; whereas surface learning strategy learners showed little interest in finding out the meaning behind the given topic, and will hardly try hard to deepen their understanding. The surface learning process is a reproduction of learning content, mainly about memorizing. Deep learning strategy also requires students to create new arguments, understand based on given information, logic and what they have learned, and recognize the structure in a specific content (Haggis, 2003).

Motivation and learning strategies are two related concepts (Dörnyei & Skehan, 2003). As motivation leads to more efforts on self-learning on SPOC, the excellent learners often use more active and appropriate learning strategies which are a reflection of their high motivation. Previous literature found that students with more motivation, especially intrinsic motivation tend to use deep learning strategies than low or extrinsic motivated students (Oxford, 1994). Students have a great interest in their online courses and have a strong belief that what tasks assigned by their teachers are important and useful are more likely to use deep learning strategies.

Some studies have shown that students with extrinsic motivation only usually get lower scores compared with students with intrinsic motivation using deep learning strategies. The latter has more insistence in their study and try to solve more difficult problems. Therefore, we hypothesize that:

H2: Intrinsic learning motivation is related to deep learning strategy.

H3: Extrinsic learning motivation is related to surface learning strategy.

E. Learning Stratey and Achievement

Learning achievement is a measure of the quality, effectiveness and development potential of SPOC. The success of online learning depends on whether it realizes the expected results.

Learning strategies have been empirically proved to play an important role in the relationship between motivation and learning outcomes (Khatib, 2010). Students using deep learning strategy try to give meaning to information and find a logical connection with the given information. Research indicates that deep learning strategy tends to improve higher quality learning outcomes since the students invest in a positive and high-efficiency learning attempt. Through the deep learning approach, they can control the learning process, regulate their learning mood, create a proper environment to study and enhance their academic achievement. On the other way, surface learning strategy usually leads to a lower quality of the learning outcome because the students have little thought about achievement and put a minimum effort during the learning process. Therefore, we hypothesize that:

H4: Deep learning strategy has a positive effect on learning achievement.

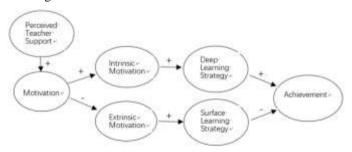H5: Surface learning strategy has a negative effect on learning achievement.

Fig. 1. Proposed model of perceived teacher support, motivational beliefs, learning strategy use, and achievement.

III. CONCLUSION

It is of great benefits to understand the relationship between perceived teacher support, intrinsic and extrinsic motivation, deep and surface learning strategy and achievement among studying, especially the mediating role of motivation on SPOC.

On SPOC, students learn independently at the online platforms and communicate with teachers through offline classes. In the face-to-face interaction between teachers and students, students perceived support from teachers would have a great positive effect on their learning intrinsic motivation and increase students' interest in the course. Otherwise, students full of extrinsic learning motivation would feel like being forced to learn for external factors such as academic scores. At the same time, the enhancement of motivation will affect the use of learning strategies by students. The stronger the intrinsic motivation is, the more concentration students will put on the

course, the deeper they will think, and the more likely they are to use the deep learning strategy. In the deep learning approach, students are always eager for achievement and have a clear goal. They take it seriously when accomplishing the tasks assigned by teachers, and be actively faced with problems; try to solve them in an efficient way. Students with high intrinsic motivation and deep learning strategy tend to be methodical, planned, and efficient and have high level of self-regulation. As a result, they have a good performance during study process and could get many achievements after completing the course.

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