The Relationship between Academic Procrastination and Self-Efficacy in Online Educational Model

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ABSTRACT

This study reports a large literature review to examine the relationship between self-efficacy and academic procrastination in an online classroom environment. It finds that increased self-efficacy in online courses can effectively reduce and solve students' academic procrastination, accordingly, improving students' academic achievement. However, some issues should also be taken into consideration. Firstly, a more reliable scale for self-efficacy assessment in online educational model needs to be further developed; in addition, more qualitative and quantitative researches are needed to analyse the impact of students' self-efficacy on their academic procrastination in the current online settings, so that enable students to have a more gradual and stable educational model.

Keywords: *Academic Procrastination, Self-Efficacy, Online Educational Model.*

1. INTRODUCTION

When people are faced with multitasks in their lives and study, they often find it difficult to solve them in time. Instead, they choose to delay. Academic procrastination is the most common phenomenon among students. In recent years, due to the COVID-19 pandemic, online course (distance learning) has become a new mainstream education model. For example, the U.S. Department of Education states that more than 2,500 colleges have offered online courses since 2020 [1]. In China, all colleges and universities implemented online teaching during the epidemic, and 22.59 million college students participated in online learning [2]. Therefore, how to improve students' academic achievement in online education has become a hot issue. "Self-efficacy", on the other hand, has a significant impact on learning. In particular, completion of academic activities, persistence and effort in school, etc., all of these qualities are significantly negatively correlated with academic procrastination [3]. A majority of studies link self-efficacy with academic procrastination [3, 12, 13], however, few studies discussed about the relationship between them in online teaching stage.

To sum up, based on previous studies, this paper aims to explore how "self-efficacy" affects students' academic procrastination in online courses, whether it can improve students' learning efficiency and the effectiveness of online teaching. In addition, it is hoped that it can provide insights for online education.

2. LITERATURE REVIEW

2.1. Definition of Academic Procrastination and Self-Efficacy

2.1.1 Academic Procrastination

Academic procrastination is usually defined as a delayed behaviour that occurs in some time-limited academic tasks [4], including review before exams, daily assignment, group projects and term papers. It seriously affects the initiative of college students in learning and often leads to poor grades. When I asked my friend, a graduate student in accounting, about her problems with academic procrastination, she said that she suddenly found herself interested in a game when exams or any important study assignments came up.

Academic procrastination is now becoming an increasingly common phenomenon. Ellis and Knaus find that 70-95% of university students exhibit procrastination during their studies [5]. Although some studies have shown that procrastination has positive effects, such as avoiding hasty actions and decisions [6], it indeed leads to more negative effects. For example, previous studies point out that students who affected by academic

procrastination have significantly lower self-regulation, self-efficacy and even worse GPAs than those not affected by it, and often result in higher rates of physical and psychological disorders such as stress and anxiety [3, 7]. Therefore, academic procrastination leads to low motivation, low self-achievement and even a more serious negative impact on university students.

So, what causes academic procrastination? It is found that fear of failure and aversion to tasks are the main reasons [8, 9]. In addition, concerns about the possibility of negative external evaluations (overvaluing others' comments) and self-underestimation (setting low standards for themselves) may also be predictors of academic procrastination [8, 9]. Essentially, improving self-efficacy has become main research to help students reduce their academic procrastination struggles.

2.1.2 Self-Efficacy

Bandura introduced the concept of 'self-efficacy', defined as people's beliefs about their ability to produce results [10]. In other words, self-efficacy is people's belief in their ability to successfully complete a task. According to Bandura, self-efficacy as a belief creates a 'desire effect', motivating people to believe in their own abilities and helping them to persist in completing tasks when they encounter difficulties [11]. This is why self-efficacy significantly affects the completion of our academic activities, academic persistence and effort, and closely related to academic procrastination [3].

There have been several studies linking self-efficacy with academic procrastination [3, 12, 13]. These studies have shown that students with low self-efficacy exhibit more academic procrastination. Additionally, Katz et al., found that autonomous motivation mediated the relationship between self-efficacy and academic procrastination: students' self-efficacy was positively related to autonomous motivation; conversely, autonomous motivation was negatively related to academic procrastination [12]. In another study, Wäschle et al., found that the setting of high or low goals in self-efficacy and the desire to achieve them were also important factors in academic procrastination [13]. They claimed that self-efficacy and academic procrastination constructed a virtuous circle (high self-efficacy → high goal achievement criteria → greater desire to achieve goals on their own → increased self-efficacy → less academic procrastination) and vicious circle (high levels of academic procrastination → low goal-achievement standards → lack desire to achieve goals → low self-efficacy → more academic procrastination → high levels of academic procrastination) through goal achievement [13].

Therefore, this paper argues that autonomous motivation and goal attainment are factors in self-efficacy that can have a significant impact on academic procrastination. By assessing students' autonomous motivation and the intensity of their thoughts to achieve goals, students' self-efficacy can be effectively evaluated. It helps low self-efficacy students to improve their self-cognition, overcome or reduce their academic procrastination. So how does self-efficacy impact on academic procrastination in an online learning? What methods are available to help teachers improve this problem? These are the questions that needed to be further explored.

2.2 Online Teaching: Academic Procrastination and Self-Efficacy

2.2.1 Online Teaching and Academic Procrastination

Currently, the online course has become more and more popular worldwide. It is an open, interactive course on the Internet, usually consisting of short lectures and assignments, graded by a background program [14], like MOOC. So, does online teaching lead to more serious academic procrastination?

Some researchers have argued that online learning tends to lead to more serious academic procrastination than traditional methods such as face-to-face teaching. Although students also procrastinate in traditional classes, the act of "attending class" ensures their participation, and even some forced interaction, at least keeps them engaged in learning for a while. However, the lack of supervision in online courses leads to frequent academic delays and less self-discipline among online learners [15]. In addition, by comparing seven different types of learning behaviour (academic procrastination, learning habit, random, diminished dive, early bird, chevron, and catch-up), some researchers have found that students with academic procrastination are significantly less effective in online learning than those with good learning habits, so it is difficult to achieve better grades in online classes [16]. On the other hand, the online teaching model often leads to an exponential increase in the amount of time students spend on their mobile phones or computers. A survey on the relationship between mobile phone use (mobile phone addiction) and academic procrastination showed that the number of time students spent using mobile phones daily was associated with high level academic procrastination behaviors [17].

However, some scholars believe that the drudgery of offline courses and increased pressure on students contribute to academic procrastination, while the introduction of technology can motivate students and help them reduce academic procrastination [18].

Currently, there are few scales used to measure academic procrastination. In 1984, Solomon and Rothblum developed a Procrastination Assessment Scale - Students (PASS) to measure procrastination among

students in six academic fields (essay writing, test preparation, weekly reading, administrative tasks, meetings, and general study tasks). The scale has good reliability and validity, also can used to measuring the degree of procrastination of students in these academic fields, the scale can also be used to evaluate the specific impact of possible causes of procrastination, such as anxiety, laziness, poor time management ability, etc., on students' procrastination behaviour [19]. In addition, the Tuckman Procrastination Scale was developed by Tuckman in 1991 [20].The scale has high reliability and validity, which can clearly describe the degree of academic procrastination of college students. Both of these scales have sufficient reliability and validity to evaluate students' academic procrastination. However, due to the early development time, it is difficult to match with the current academic situation, and there is no item for measuring students' academic procrastination under the network teaching mode.

Therefore, the number of studies remain small and apparently controversial. On the other hand, a scale that can be used to assess the extent of academic procrastination in online lectures needs to be developed. So this paper argues that it is necessary to develop a new scale or an existing scale through quantitative research as the basis for subsequent research on students' academic procrastination in the online teaching mode; and more quantitative and qualitative studies are needed to verify the relationship between online courses and academic procrastination (questionnaire and scale assessment), how they affect (interviews with students), and how they address with problems (interviews with teachers).

2.2.2 Self-Efficacy in Online Teaching

As the number of students in online courses has increased, some researchers argue that self-efficacy has become a major predictor of performance in online courses [21, 22]. The advantage of online courses is the flexibility and freedom of course schedule, but it requires a high degree of self-efficacy and self-management of the learner. The use and construction of self-efficacy in online environment currently focus on technology-related self-efficacy: computer self-efficacy (users' confidence in their ability to use hardware facilities such as computers), Internet and information-seeking self-efficacy (users' confidence in their ability to search for information and use the software in networked systems) and so on [21]. For example, in a study of students' self-efficacy, researchers found that students who had experience with online learning were quicker to find sound and effective learning strategies. Accordingly, students developed stronger levels of motivation and self-efficacy, ultimately achieved good academic results [22]. However, these technology-related self-efficacy appear to be controversial in predicting students' performance in online courses, particularly academic

performance. Some researchers state that they have sufficient reliability and validity to predict student performance in online courses [21], and others being skeptical. For sceptics, they believed that the studies on students' self-efficacy were mainly in the early 1990s, since online learning was not born [23]. In order to better evaluation of online learning self-efficacy and the hardware (computer), the relationship between the researchers identified online learning self-efficacy of five dimensions (course completion, social interaction between peers, the use of curriculum management system, online teacher and students in the course of communication, and academic interaction between classmates) [24]. However, despite the development of these five dimensions, there is no specific scale for evaluation. In 2021, Sun and Rofer developed Online Learning self-efficacy Scale (OLSS), which is used to evaluate students' self-efficacy in online learning environment, including measurement of 4 factors (use of network technology, online Learning tasks, interaction with tutors and peers, and self-regulation and self-motivation). The scale has a high degree of internal consistency, but since all the participants are students from same university, the sample is not representative enough. More data collection is still needed to verify its reliability and validity in various situations and samples [25].

Thus, it is important to develop an instrument that can effectively measure students' self-efficacy in online classes.

2.3 Summary

In summary, the relationship between self-efficacy and academic procrastination in the online classroom model is currently at a stage where research is pending. However, based on previous research, preliminary hypotheses can be made to provide insights for subsequent research: 1) self-efficacy still has strong reliability in the online learning environment; And 2) increased self-efficacy in online courses can effectively reduce and solve students' academic procrastination.

3. DISCUSSION

From previous research, it is clear that procrastination is becoming more prevalent in academic contexts which has a serious negative impact on students' learning. According to the self-efficacy proposed by Bandura, this study argues that self-efficacy can help students to reduce or avoid academic procrastination. Katz et al.'s study suggests that by enhancing students' autonomous motivation to achieve a higher sense of self-efficacy, students' academic procrastination is ultimately reduced [12]. This process is to teach students to understand the function of motivation in learning, in other words, if a person is engaged in learning based on interest, or if they

recognize the importance of completing a task, their academic procrastination may be reduced. On the other hand, Wäschle et al. find that goal achievement is also an effective means of promoting self-efficacy [13]. Based on 'goal-achievement', the rules for setting the goal need to be discussed in order to avoid the possibility of students losing confidence in the process of achieving it. It shouldn't be too simple or too high, that is, a reasonable goal can increase self-efficacy and reduce the likelihood of academic procrastination.

The popularity of COVID-19 has sparked new thinking about education, and more online education platforms have emerged with free learning time and flexible learning methods. At the same time, the 'competition' between online and traditional face-to-face delivery has led researchers to investigate the differences in student performance during delivery. Some researchers believe that online teaching distracts students from their studies, makes them addicted to electronic devices and ultimately leads to increased academic delays [15]. Other researchers have argued that the new format of online lectures can attract students' attention and reduce academic delays [22]. In response to this phenomenon, this study interviewed three current postgraduate students (receiving a mix of online + offline education) about their views on the current learning state (This interview was done in an anonymized manner to protect the personal details of the interviewees):

Interviewer: What do you think is the biggest difference for you between online and offline tuition at the moment?

"The biggest difference was that I couldn't fully concentrate on the lecturer during the online classes, for example I would run off to answer emails, write other assignments, chat with friends, etc. After all, we didn't need to have the camera on, which meant that the teacher didn't know what we were doing on the other end of the computer. In fact, I've had the experience of cooking while listening to a lesson. But offline means that the teacher is in front of every student and a lot of behavior is 'monitored', which makes me cautious and focused." (Male, 23-year-old, Advertising)

"I don't think it makes much difference to me, I think learning relies heavily on self-control and self-discipline, so for me it's all learning, just in different ways." (Male, 24-year-old, Psychology)

"I actually don't like offline classes because I live far away and going to university would be a waste of time, and I think a lot of it could be self-taught and the teachers would give a lot of references. But I have to say that the online seminars give me the interface to not voice my opinion and I can say that I have a bad internet connection. This is not true, but I must admit that the online classes allow opportunities for laziness. With the offline seminars, I would have been more engaged and would

have thought more actively, and that was the biggest difference." (Female, 23-year-old, Accounting)

In fact, the number of people I interviewed is limited, and cannot represent the whole students. But it is clear that everyone has different views on online tuition. In addition, this is not a formal interview, but a survey among friends to provide some information for this study.

4. CONCLUSION

This paper is a literature review to explore the relationship between students' self-efficacy and academic procrastination in online education. Previous literature has confirmed the conjecture of this study that self-efficacy is significantly negatively correlated with academic procrastination [3]. However, the difference between online and offline learning environments has not been studied. Inevitably, therefore, the current studies have many limitations, such as 1) the lack of a high reliability and validity scale to measure self-efficacy in online teaching, which makes it difficult to determine the true degree of students' self-efficacy; 2) the lack of comparisons of students' academic procrastination in online and offline classes to determine whether there are differences between them; and 3) the lack of knowledge about online teaching formats and student feedback. Therefore, here're some suggestions for further studies:

1) Develop a self-efficacy scale applicable to online teaching model, revise and test the reliability and validity according to the scope of students (grade, region, etc.);

2) Conduct a quantitative study of students' self-efficacy and academic procrastination in different teaching models: collect sufficient samples to compare the differences and commonalities among students who receive online, offline, and a mixture of the two educational models;

3) Conduct a qualitative study among students and teachers with different teaching models, to further examine their diverse feedback on these teaching models.

In summary, the relationship between students' self-efficacy and academic procrastination in online teaching environment has not been currently thoroughly studied. Therefore, this study hopes to provide insights for future qualitative and quantitative research, so as to help online learning platforms play a greater role in learning, help students improve learning motivation and self-efficacy, and reduce academic procrastination.

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