# Examining the Relationships Between Distance Education Students' Self-Efficacy and Their Achievement

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**Abstract**

This study aimed to examine the relationships between students' self-efficacy (SSE) and students' achievement (SA) in distance education. The instruments were administered to 100 undergraduate students in a distance university who work as migrant workers in Taiwan to gather data, while their SA scores were obtained from the university. The semi-structured interviews for 8 participants consisted of questions that showed the specific conditions of SSE and SA. The findings of this study were reported as follows: There was a significantly positive correlation between targeted SSE (overall scales and general self-efficacy) and SA. Targeted students' self-efficacy effectively predicted their achievement; besides, general self-efficacy had the most significant influence. In the qualitative findings, four themes were extracted for those students with lower self-efficacy but higher achievement—physical and emotional condition, teaching and learning strategy, positive social interaction, and intrinsic motivation. Moreover, three themes were extracted for those students with moderate or higher self-efficacy but lower achievement—more time for leisure (not hard-working), less social interaction, and external excuses. Providing effective learning environments, social interactions, and teaching and learning strategies are suggested in distance education.


Keywords: Distance Education, Self-Efficacy, General Self-Efficacy, Academic Self-Efficacy, Students' Achievement, Migrant Worker

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**Introduction**

For decades, educational researchers have been studying self-efficacy as a construct to determine its impact on students' academic motivation (Zimmerman, 2000), learning strategies (Phan, 2011), perseverance in the face of academic setbacks (Caprara et al., 2008), and students' achievement (Prat-Sala & Redford, 2012). Students' self-efficacy is related to the belief that students have to manage and perform a given task well. It influences how students approach their task, their persistence to accomplish the objectives, and their confidence to manage their studies. This concept has a role in human functioning through social cognitive, self-esteem, motivational selective, and affective processes.

Students with high self-efficacy intend to persevere longer, search for deeper meaning across learning tasks, report lower anxiety, and have higher achievement in school (Bandura, 1997). Commonly, students with high self-efficacy can maintain their studies well. It affects their daily learning activities. As a result, they preserve longer than students with low self-efficacy.

Several studies examine the relationships between the level of self-efficacy and achievement in university students. Prat-sala and Redford (2012) found the importance of the concept of self-efficacy in relation to student performance. They discussed the relevance of self-efficacy on students' perceptions and self-regulation in an undergraduate student. Other studies also have proved that self-efficacy could have a positive impact in many aspects, including students' achievement (Kluemper et al., 2009; Siddique et al., 2006). However, few studies were done on distance universities. This study will contribute to fulfilling the role of self-efficacy on the achievement for distance learners.

Nowadays, technology supports education through the internet. It changes the way of learning in the classroom into learning in an online system. Some universities open classes by using an online learning system. It requires students' greater autonomy and a higher level of persistence and effort in the learning tasks. To be aware and know the degree of self-efficacy of students seems particularly relevant (Goulau, 2014). This study stated that students' self-efficacy has positively impacted the students' achievement even learning process is done by using an online application.

Furthermore, Bandura (1997) has introduced the theory of self-efficacy, which states that self-efficacy expectations are based on four significant sources of information: (1) performance accomplishments, (2) vicarious experience, (3) verbal persuasion, and (4) physiological states. As one of the topics in social cognitive theory, self-efficacy sources indicated that the environment influences students' self-efficacy. Therefore, distance learning environments become challenging for non-traditional students.

Concerning migrant workers getting higher education, the Indonesian government provides education through Indonesian Open University. This distance university aims to provide higher education services for migrant workers who cannot continue their education at face-to-face tertiary institutions for work or other reasons. This policy promotes the rights of Indonesian citizen to get an education wherever they are and help people with a lower social economic status that cannot continue their higher education without working because they need financial support. However, working abroad and studying in a distance learning program, both of these conditions might affect the students' self-efficacy and achievement.

Most of the previous studies discussed the relationship between self-efficacy and achievement in primary and secondary education. Yet, few are discussed in tertiary education, particularly distance education. Therefore, this study examined the relationships between students' self-efficacy and the achievement of distance learners. The findings of this study could fill the information as follows: Does students' self-efficacy correlate to students' achievement in distance education? Is self-efficacy able to predict students' achievement in distance education? And why do distance learners have specific conditions regarding self-efficacy and achievement?

## Literature Review

### Distance education for Indonesian migrant workers

Distance education has allowed non-traditional learners to acquire skills and knowledge with flexibility and convenience, which are essential for their families and work responsibilities. These non-traditional learners have specific characteristics, including part-time or full-time enrollment, delayed post-secondary enrollment, independence for financial assistance purposes, employment over 35 hours per week, dependents' primary caregiver, and a completed high school diploma (Stephen et al., 2020). The population of non-traditional learners in online courses has grown steadily over the years, with the number of 25-year-olds increasing their enrollment in distance programs by 35 between 2001 and 2015. Non-traditional learners are expected to grow by 11% by 2026 (Hussar & Bailey, 2018).

The Indonesian government facilitated higher education through Indonesian Open University to migrant workers to get their rights to access education. Based on *Indonesia Open University Catalog (2019)*, this university entirely uses a distance education mode of learning. It has been designed to be a flexible and inexpensive university focusing on serving people who lack the opportunity to attend face-to-face mode of the higher education system due to various constraints, including lack of funding, living in isolated and rural areas or abroad, and working as migrant workers. The system has continued to evolve and improve its teaching and learning systems, management, and support services for students. It applies a learning management system (LMS) to facilitate teachers' and students' interaction, an online library to access learning content, and several online applications to support their study.

### Students' self-efficacy in the distance education context

Bandura (1997) defined self-efficacy as belief in one's capabilities to organize and execute the courses of action required to produce given attainments. It shows the level of confidence that students have to learn and perform in the classroom. Therefore, this concept strongly influences the approach to the task, the persistence to accomplish it, and the level of effort to achieve the goals. Students with high self-efficacy persevere longer, search for deeper meaning across learning tasks, report lower anxiety and have higher achievement at school (Pajares & Schunk, 2005). On the other hand, students with low self-efficacy may have lower achievement. This study separated self-efficacy into general self-efficacy and academic self-efficacy. General self-efficacy is the belief in one's competence to cope with a broad range of stressful or challenging demands (Luszczynska et al., 2005). While academic self-efficacy poses that human achievement depends upon interactions between the person's behaviors and personal factors such as abilities, beliefs, motivation, and environmental conditions (Bandura, 1997).

Various factors enhanced self-efficacy and provided evidence of significant sources of self-efficacy in the context of distance learning. Many of the learners who resort to distance learning, in general, are no longer youths, and they have their jobs and their families. Moreover, the investigation guides further research in designing online learning environments to enhance the self-efficacy of learners (Peechapol et al., 2018). Based on Rovai's (2003) model and previous research demonstrating the importance of non-traditional learners' needs, skills, and characteristics for online persistence, he assumed that self-efficacy predicted the enhancement of non-traditional distance learners. Self-efficacy is important for persistence and requires learners to structure the environment, set goals, manage time, seek help, use task strategies, and self-assess, and a comprehensive understanding of self-regulation as it relates to perseverance is incomplete without self-efficacy (Stephen et al., 2020). Learners' beliefs about their ability to succeed in time management, technology use, and learning are predictors of persistence (Robbins et al., 2004). Finally, given the highly independent nature of the distance education environment, it can be argued that self-efficacy is essential to the success of distance learners.

### *Factors affecting students' achievement*

Menon (2016) considered that learning achievement was an indicator to evaluate students' absorption of course contents, and teachers' teaching effectiveness could be judged according to students' test performance. As a tool of evaluation, the achievement score indicates how effective the learning process is. Shadiev et al. (2015) regarded learning achievement as the learning outcome and performance during participation in activities. They explained that achievement is obtained result of what students perform in the class. Huang et al. (2013) referred to learning achievement as the evaluation or test of learners after completing learning activities to understand the achievement of the learned contents. It means achievement can be obtained from tests and other assessments.

Some factors have a potential effect on the quality of students' achievement. The theory of Educational Productivity determined three groups of nine factors based on affective, cognitive, and behavioral skills for optimization of learning that affect the quality of academic performance: Aptitude (ability, development, and motivation); instruction (amount and quality); environment (home, classroom, peers, and television) (Walberg, 1982), including distance learning environment. Jurecska et al. (2012) suggested that culture may influence the pathways between poverty, self-efficacy, and achievement. The need to assimilate content to develop students' emotional self-efficacy is highlighted. In the context of distance education for migrant workers, the students adjust to the culture in the country and regulations in the places they work.

### *Self-efficacy influences students' achievement*

Many researchers have explored the relationships between students' self-efficacy and achievement with various samples in various settings (e.g., Bates & Khasawneh, 2007; Cascio et al., 2013). While past performance is helpful in forming predictions about students, students' own self-efficacy beliefs are more reliable in predicting future performance. Wigfield and Eccles (2000) found similar results of beliefs in which study participants' beliefs better predicted grades than students' previous grades. Bandura (1976) stated that although previous achievements affect self-efficacy, students also consider their own personal standards when evaluating themselves, pushing themselves to reach new goals. A meta-analysis revealed significant relationships were present between self-efficacy and

performance of high schools and college students than younger students, and relatively weak relationships were founded between self-efficacy and performance of younger students than high schools and college students (Multon et al. 1991).

In contrast, a study has revealed no significant relationship between self-efficacy and academic performance (Cho & Shen, 2013). This case probably happens because people have significantly different conditions, cultures, and goals in learning. Operationalization of self-efficacy, the timing of measurement, and cultural di   erences have been proposed as reasons (Honicke & Broadbent, 2016). Currently, it has been assumed that self-efficacy is one of the most important factors or predictors for learners to achieve learning success (Ugwuanyi et al., 2020). This may mean that if a student's self-efficacy is enhanced, the student may be able to achieve higher academic results in an online learning context (Yokoyama, 2019).

## Materials and methods

### *Development of research instrument*

A developed questionnaire was adopted as the major instrument for data collection, including two major sections. The first section collected participants' socio-demographic background information and the second section was designed to collect distance learners' perceptions of their self-efficacy. The second section was divided into 21 100-point scales of general self-efficacy and 24 100-point scales of academic self-efficacy. The instructions and standard response format of self-efficacy are promoted by (Bandura, 2006): The strength of self-efficacy on a 100-point scale, ranging in 10-unit intervals from 0 (cannot do); through intermediate degrees of assurance, 50 (moderately certain can do); to complete assurance, 100 (Highly certain can do). While their GPA was obtained from the university. The semi-structured interviews for the case study consisted of questions to confirm the specific conditions of students.

### *Validity and reliability*

The validity of the questionnaire was determined by content validity, where the draft of the questionnaire was reviewed by three scholars to ensure the questions' accuracy, completion, mutual exclusivity, and measuring of what they claimed to measure. Cronbach's alpha was used to determine the reliability; the results were .90 for general students' self-efficacy, 97 for academic students' self-efficacy", and .97 for the total score of two subscales. The results are higher than the cutoff score of .7, indicating the questions achieved a high degree of internal consistency.

### *Data gathering procedure*

***Target respondents.*** In order to ensure that the participants were qualified to answer the research questions and to ensure a high responding rate, we corporate with Indonesian Open University. The students should participate in distance learning programs for more than one academic semester and have professions as migrant workers in Taiwan. After collecting the data, semi-structured interviews were used to gather follow-up data from those students who had specific conditions based on their responses (i.e., rating of students' self-efficacy and achievement scores). Targeted students who had two specific conditions were purposefully selected; the first group is six students with lower self-efficacy ratings but higher achievement scores (ID: S007, S010, S025, S048, S072, and S078) and the second group is

two students with moderate/higher self-efficacy ratings but lower achievement score (ID: S073 and S093). Contacting them via messenger that they frequently used was made for inviting them to the interview. All of the questions were designed based on their answers in the survey. An interview is considered an effective tool to enable the researcher to obtain in-depth explanations from participants (Kumar, 2014).

***Responding rate.*** The questionnaires were sent out to entire 169 students at Indonesian Open University Taiwan Branch, and 100 valid questionnaires were retrieved, resulting in a 59.17% response rate. The percentage of demography backgrounds of 100 participants is 19% males and 81% females; 30% factory employees, 22% of housemaids, and 48% of caregivers.

### Statistical analysis

The quantitative data were analyzed by using SPSS. Pearson's product-moment correlation and regression analysis were applied. Then, the qualitative data were organized and pre-analyzed using the following steps (Thomas, 2006): Preparation of raw data files, closed reading of the text, creation of categories, overlapping coding and uncoded text, and continuing revision and refinement of the category system. The template analytic techniques (Crabtree & Miller, 1999) were then employed for further analyses. The analytic editing system, applying the organizing code topics (i.e., related to students' self-efficacy and achievement), was used to ensure that the analyses focused on learning at a distance university.

## Results

### The relationship of students' self-efficacy and achievement

As illustrated in Table 1, there was a significantly positive correlation between students' self-efficacy (both "total score" and general self-efficacy) and their achievement. However, there was no significant correlation between students' academic self-efficacy and their achievement in distance learning. It indicates that belief in one's competence to cope with a broad range of stressful or challenging demands correlated with students' academic scores (e.g., Metcalf & Wiener, 2018; Tang & Westwood, 2012).

Table 1: *Correlation between Students' Self-Efficacy and Achievement in Distance Education*

| Factors | General self-efficacy | Academic self-efficacy | Self-efficacy (total score) |
|---|---|---|---|
| General self-efficacy | | | |
| Academic self-efficacy | .78*** | | |
| Self-efficacy (total score) | .92*** | .97*** | |
| Students' achievement | .29** | .18 | .24* |

*Note. *$p < .05$; **$p < .01$; ***$p < .001$

The findings from multiple regression analysis revealed that students' self-efficacy (total score) significantly predicted their achievement ($F$ (1, 91) = 5.48, $p < .05$), with 5.7% of the variance in achievement explained by students' self-efficacy (i.e. total score). The standardized regression coefficient indicated that students' self-efficacy (i.e. total score) ($\beta$ = .24, $t$ = 2.34, $p < .05$) had significant effects on their achievement. Accordingly, the

targeted students with higher students' self-efficacy (i.e. total score) had positive influences on their achievement. Furthermore, with a more detailed inspection of two subscales of students' self-efficacy (i.e. general self-efficacy and academic self-efficacy), the result showed that the two subscales together significantly predicted their achievement ($F$ (2, 90) = 4.47, $p$ < .05), with 9.0% of the variance. The standardized regression coefficients showed that students' "general self-efficacy" ($\beta$ = .37, $t$ = 2.40, $p$ < .05) had significant effects on their achievement. Tladi (2017) stated that distance education students' self-efficacy explained 10% of the variation in academic achievement. While there were no significant effects of students' "academic self-efficacy" ($\beta$ = - .10, $t$ = - .67, $p$ > .05) on their achievement (see Table 2 for details). This finding was in contrast to several studies that reported academic self-efficacy is a strong predictor for students' achievement (e.g., Dogan, 2017).

Table 2: *Predictors of Students' Achievement in Distance Education*

| Factors | B | SE | β | t |
|---|---|---|---|---|
| (constant) | 53.49 | 10.84 | | 4.94*** |
| General self-efficacy | .54 | .22 | .37 | 2.40** |
| Academic self-efficacy | -.11 | .17 | -.10 | -.67 |

*Note.* **= $p$ < .01; *** = $p$ < .001

Based on the finding above, general self-efficacy is more suitable to measure and predict students' achievement in the distance education context. The possible reason is that the sample in this study was collected from different majors with different courses. Therefore, academic self-efficacy concerning the specific course or academic cannot predict students' achievement. Recent studies usually used academic self-efficacy for measuring or predicting students' achievement in one subject, such as Mathematics (Chang, 2015).

### Interviews of students with specific conditions

### Students with lower self-efficacy but higher achievement

Based on the interview results, four themes were extracted for those students with lower self-efficacy but higher achievement.

### First theme: Physical and emotional condition

The main reason why they had low self-efficacy was the "distraction" of their physical and emotional conditions. S010 explained, "I work as an elderly caregiver. Sometimes, I want to do homework, grandmother that I care for suddenly wakes up, and I need to care for her." Working time as a caregiver requires them to care for the elderly for the whole day. S025 also had a similar thought:

> I am tired of working, so I cannot focus on my study. I look after the elderly, it is like working 24 hours, because the elderly usually wakes up at night every two hours, to urinate, so I need to wake up to care for them.

As a result of their busy working time, they felt fatigued, and they did not have extra time to review the class. "Due to lack of free time and fatigue at work, I sometimes use my free time to rest. After the online classes are over, I still do many e-learning assignments.", said S072.

S078 realized that she was a student at a distance university as well as a migrant worker in Taiwan. It made her more difficult to manage her time, she said:

> I have to adjust between work and homework; it is not easy. I can do my homework after work at 10 PM. I have to choose to work, study online, or do an assignment first. I cannot use my computer while working, so I am stuck doing homework.

In addition, S078 also stated that "Sleepiness, that is the problem. I do my assignments at midnight. I sleep late, then I work at 7 am."

Either physical or emotional distraction could make students feel less efficacious; that is, they might be less confident in their future learning tasks. As S025 responded, "My problem is because I take care of the elderly, who are often angry or screaming, so I have to focus on her whole days." Similarly, S078 also expressed her feeling: "Nervous makes me not confident to do it. I get difficulty concentrating because I am tired". Further, she indicated that:

> Students like us become different from students who do not work as migrant workers. I lack confidence because of the stress of facing a lot of homeworks and information when not attending class. Therefore, I try always to be present.

Accordingly, she gradually realizes the risk of doing two things together, i.e., studying and working simultaneously. In fact, if one is in a lousy mood and restless, she/he will become more anxious and temperamental which may lead to no or less accomplishment in her school works.

### *Second theme: Teaching and learning strategy*

Students have various kinds of interests and employ different ways in learning. Therefore, strategies they may apply for studying and practicing vary; especially, they will be different while confronting distance learning. S010 said, "The point is I have prepared, even though I do not think it is optimal. for example, there are 10 points to be learned, I only read 5 points. There is not enough learning time."

In this distance university, there were intensive interactions between the tutors and students that were essential for some students if they need discussions, even though some students prefer to learn by themselves. S010 claimed, "I prefer learning by myself. Maybe I can read more books or search for specific information." In contrast with S010, S025 held different opinions about her way of learning. She indicated that, "My ideas usually arise with more pressure from people around me. Interesting learning motivates me to do better, then I will be able to achieve my learning goals. If none motivates me; maybe I cannot do it well."

In addition, S025 said, "I often hear or watch learning videos given by tutors, rather than reading books while working." However, she stated, "If the grandmother was sick or fussy, she was undoubtedly unable to focus on what the teachers explained."

S072 expressed her thought on why she had a lower self-efficacy rating, "When I am tired after working if the teachers gave uninteresting lectures, that makes me feel bored and did not want to learn at all." In short, some students did like to have more interactions while learning.

### *Third theme: Positive social interaction*

Echoing Bandura's (1997, 2000) social learning theory, social interactions are essential for positively promoting the development of one's self-efficacy, which, in turn, may result in better learning achievement. However, some of these students did not have enough interactions with their peers. S001 realized that fewer social interactions with friends or classmates were ineffective; more social interactions would be helpful for her learning. "When I do not understand or have questions, I look for a way to solve it by myself. I realize that learning online has an obstacle to interacting with friends since our time is so limited freely," said S001.

Once they lack interactions with peers or the teachers, they may feel that the class tasks or home works are more difficult to be finished. As S078 indicated, "I am lazy to ask questions in class and I rarely contact tutors after class." She added that "I am more comfortable while learning by myself. If I study with others, I feel afraid that I cannot express my opinions or thoughts well so that they cannot understand." However, this lack of social interaction may not only lower these students' self-efficacy but also decrease positive opportunities to work with or learn from others.

### *Fourth theme: Intrinsic motivation*

Even though they had lower self-efficacy, they got good grades. Therefore, it was so important to discover how they could get better grades compared to other students. S001 claimed that "I do not know. I always feel motivated while learning, especially while I finish some learning tasks." Through this kind of intrinsic motivation, they did better than others. S025 indicated that "I always try my best, I know my capacity. It is lucky to get good grades. I always do my work as best I can". In addition, S048 and S072 expressed that they always try to be active in online classes; for example, they always participate in online activities and ask or answer questions in class. They always attend class and submit assignments on time. Likewise, "I have to be more focused even though my time is limited. Moreover, I think I am always motivated", said S078. In fact, intrinsic motivation is beneficial for one's learning, which will promote them to keep learning and persist longer while facing obstacles. As Bandura (1997, 2000) argued, "mastery experience" is one of the essential resources for self-efficacy development, and it will also cyclically influence the development of one's learning achievement (Zimmerman, 2000). Consequently, since these six students had better achievement scores now, it may cyclically promote their self-efficacy positively in the near future.

### *Students with moderate/higher self-efficacy but lower achievement*

Three themes were extracted for those students with moderate/higher self-efficacy but lower achievement. However, since only two students were interviewed, the findings needed to be confirmed by future studies. Here are some preliminary results.

### *First theme: More time for leisure (not hard-working)*

As S073 claimed, he spent a great deal of time for leisure, such as going out with friends during weekends or playing games during break hours. He said, "I have much free time. Compared to my friends, my working hours are less than theirs". He further explained that "Once I have free time, I actually do not spend my free time on learning. But, I think that I

can handle my school tasks." However, spending less time on learning for him (S073) led to lower grades. For S093, he claimed that he did not spend much time learning either. She mentioned that "Instead of studying hard, I rather rest more if I have free time. I think I just need a regular grade. I go study because I could make more friends". In short, for both of them, spending less time on learning or not working hard for tasks became one of the reasons for getting lower grades in school.

### Second theme: Less social interaction

As indicated in the previous section, those students with higher self-efficacy would like to interact with peers or teachers, where these positive interactions were beneficial for their self-efficacy development. However, the two students with moderate/higher self-efficacy, both had less interaction with peers or teachers about their school works. S073 indicated that "As I said before, I do not spend much time on my school works. In fact, I do not like to interact with others while learning since it is boring. S093 also mentioned that "I do not study hard. I have fewer interactions with my classmates or teachers." In brief, the missing of positive social interactions with peers or tutors while learning might be the reason that they had lower achievement.

### Third theme: External excuses

Based on Bandura's (1997) perspective, a "sense of control" is one of the crucial factors in one's self-efficacy development. These two students actually did not fit this perspective, where they usually attributed their lower grades to external excuses (Chang, 2010). For example, S073 realized his achievement was not good, but he thought that "I do my best while learning. I just do not know why my grades were not good enough. Maybe the content is too difficult for me". S079 had similar conditions, and he said, "Maybe other classmates are better than me. You know, I think I am not that smart so I do not get better grades." In short, these two students did not fit in the "sense of control" theory, but they had moderate/higher self-efficacy. Thus, it needs more empirical pieces of evidence to confirm these kinds of findings.

## Conclusions

The overriding of this study was to examine the relationships between students' self-efficacy and their achievement in distance education. Based on data analysis, three main findings were obtained in this study: (1) There was a significantly positive correlation between targeted students' self-efficacy and their achievement (whole scales and general self-efficacy), while there was no significant correlation between targeted students' academic self-efficacy and their achievement. (2) Targeted students' self-efficacy effectively predicted their achievement, with 5.7% (the whole scale) and 9.0% (two sub-scales) variance explained; besides, the general self-efficacy had the most significant influence ($\beta$ = .372), while the effect of the academic self-efficacy was not significant. (3) According to the qualitative findings, four themes were extracted for those students with lower self-efficacy but higher achievement: Physical and emotional condition, teaching and learning strategy, positive social interaction, and intrinsic motivation. In addition, three themes were extracted for those students with moderate/higher self-efficacy but lower achievement: More time for leisure (not hard-working), less social interaction, and external excuses.

Based on the findings and discussions, along with these limitations, concrete recommendations were proposed for targeted students as well as for future studies: Indonesian Open University (i.e., not only the one in Taiwan but also others in different countries), the findings of this study inform us of two main things: (1) Since the average rating of targeted students' self-efficacy was comparatively lower (only 73.41% of confidence in their future learning in distance education), it is recommended that the faculty members need to find out how to promote these students' self-efficacy belief for future learning. (2) Targeted students' achievement scores were acceptable (i.e., 85.09, out of 100 points). In addition, targeted students' self-efficacy effectively predicted their achievement, adding to the qualitative findings (themes that were influential for students' self-efficacy and achievement). Therefore, for the purpose of long-term development, it is suggested that distance education needs to provide a more effective learning environment (e.g., more social interactions, employing more teaching and learning strategies) for these students to be successful in distance learning.

Finally, many interesting and important phenomena were explored in this research, yet we could not find many reasonable explanations for the results. Several suggestions remain. For instance, employing more participants in future quantitative studies, conducting this kind of study on different campuses (in different countries) of distance universities, and conducting similar qualitative studies to collect rich data for the purpose of finding out how to promote targeted students' self-efficacy and achievement while studying online.

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