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COVID-19 and online learning: critical insights for academic achievement

Soleman Mozammel, *Arab Open University,* Bahrain,*smozammel@hotmail.com*
Umair Ahmed, *Arab Open University,* Bahrain,*umairahm@gmail.com*
Nawal Shakar, *Arab Open University,* Bahrain,*nawal.shakar@aou.org.bh*

Abstract- The current study aims to underline the concept of academic achievement and how it can be enhanced particularly during extraordinary times like COVID-19. The paper sheds light on the literature underlining students being self-efficacious to boost their academic outcomes. Drawing from this, the authors recommend that individuals can boost their academic achievement through enhancing their I.T self-efficacy to harness academic achievement during the COVID-19 period. The conceptual framework of the current study also proposes to focus on the acute role of teachers in this regard. The study proposes that teacher`s achievement goals for their students can also be instrumental in furthering students` academic achievement. Based on the literature's critical appraisal, the current study proposes and forwards the time framework for aspiring scholars in the domain to investigate across the education sector.

Keywords: Academic achievement, conceptual aspects, student-content ınteraction, e-learning components.

I. INTRODUCTION

Academic achievement is one of the significant prospects for academic success. Notably, during the COVID-19 pandemic, there are concerns raised on the issue of students` academic achievement due to the shift of physical classes to online. Typically, researchers suggest a growing need for students showcase psychological resourcefulness for better academic behaviors and outcomes (Fati et al., 2019; Mozammel et al., 2018). In particular, the self-efficacious behaviors have been found particularly promising in predicting the required results (Ahmed et al., 2017). These studies have suggested that when students are confident of their abilities to overcome certain challenges and strive to achieve goals, it helps them to boost their performance targets. Therefore, with the ongoing COVID-19 situation whereby the learning is taking place online, it becomes important for students to express I.T self-efficacy in order to secure their academic achievement. In addition, teachers` support, as per the literature, is also important to enhance outcomes (Ahmed et al., 2018; Lee et al., 2019). This hence requires us to understand the role and relationship between what teachers could do to enhance the academic achievements of students. The current study therefore proposes for scholars to investigate the potential of significance of individual teacher achievement goals (Daumiller et al., 2020), and how they would translate into boosting students` academic achievement. The authors further propose that it would also be interesting to see if the teacher`s achievement goals could potentially strengthen the association of I.T self-efficacy and the academic achievement of students. The current paper proposes a conceptual framework for scholars in the academic domain to help forward empirical results indicating how the academic achievement of students can be improved during the online learning era in today`s time.

II. LITERATURE REVIEW

Students Learning Outcomes: The Conceptual Aspects

To start with, the conceptual aspects of students' learning outcomes have been underlined as 'self-efficacy' as a key conceptual variable of Bandura's Social Cognitive Theory (SCT) (1986). Self-efficacy as a conceptual construct, which merits serious scholarly attention (see Michaelides, 2008, for a review), is defined as "an individual's belief in his or her own ability to organize and implement action to produce the desired achievements and results" (Bandura, 1997, p. 3). The solid evidence recorded by scholars in relevant studies pertinent to 'self-efficacy' has proved it to be a positive predictor of students'

performance outcomes in several curricular subjects (Schunk et al., 2008; Usher and Pajares, 2008). It is a conceptual construct that "predicts students' academic achievement across academic areas and levels" (Usher and Pajares, 2008, p.751). Studying self-efficacy in classroom settings is highly significant with regards to the development of pedagogical instructions, curricula, and programs to be designed. However, cognition-based studies that have considerably proved the relationship between students' self-efficacy and achievement are still scarce.

The social cognitive Expectancy-Value Model (E-VM) of achievement motivation is one of these most prominent frameworks. It was proposed by Eccles and her colleagues (Eccles et al.,1983; Wigfield and Eccles, 1992, 2000) based on Atkinson's (1964) Expectancy-Value Model. This sophisticated model draws on the interconnected components that can be grouped as three main blocks (or variables), arranged sequentially as follows: the social world, cognitive processes, and motivational beliefs. According to the model, the three blocks of variables are believed to act (either directly or indirectly) as indicators of students' achievement behavior, persistence, and choice. The model assumes that, first, regarding the motivational beliefs, expectancies for success (and other relevant positive performance values) are directly related to students' achievement, choices, and persistence. Second, such expectancies and performance values are generated and controlled by students' goals and self-schemata. In its turn, self-efficacy (among the students' positive beliefs of competence) is considered a prominent facet.

Another proposed model is the Educational Situation Quality Model (ESQM; MOCSE is the acronym in Spanish) (Doménech-Betoret et al., 2014). The ESQM is considered akin to E-VM, as (a) both models relate to the cognition-based studies of motivation; (b) they both draw on the role of expectancy-value variables in predicting students outcomes; (c), and finally, they both draw on the important antecedents of expectancy-value variables (or self-beliefs constructs, such as self-efficacy, self-concept, self-esteem, self-confidence, etc.). Generally speaking, academic institutions worldwide have now all opted to integrate information and communication technologies (ICTs) into their teaching and learning platforms (Ryan, Scott, Freeman & Patel, 2000).

Interaction Online: Its Role and Types

The role of interaction has been proved by empirical research to be a key factor with regards to students' perception when it comes to achieving satisfactory performance inside the formal classroom settings (Garrison & Anderson, 2003; Hillman, Willis & Gunawardena, 1994; Moore, 1989;Wagner,1994).However, there are four types of online interactions as identified by Schone (2007), namely: passive, limited, and complex, and, finally, real-time interaction. To start with,passive interaction refers to receiving, reading and/or responding to the content while being displayed on the screen.The limited interaction can move the students to a higher (yet still limited) level of interaction using the interactivities that aim to elicit their response.The complex interaction is based on simulative learning, which depends on actual data(and stimuli) that aim to define and enhance students' interest in the subject matter. Finally,real-time interaction refers to the defined interactive behavior between students and teachers online.These four types of interactions are measured based on the degree of interactivity inside the formal classroom settings. Another classification is proposed by Moore (1989), who categorizes online interactions as student-student, student-instructor, student-content, and student-interface interactions. Another type of online interaction is the vicarious interaction, which takes place when learners learn by observing and/or imitating other students while interactively exchanging knowledge and information (Davies, 2001).Whatever way it is, all these terms used to categorize online interactions are based on the degree of effectiveness of the concerned learning system, as well as the efficiency of the information technologies used. It is worth noting that student interaction via online learning platforms differs from student interaction in traditional classroom settings. However, the difference mainly lies in the teaching method (or medium) used,but not in other fixed components(or variables) such as the content, teachers, and students.In fact, both the traditional and the online classroom settings entail student-student, student-teacher, and student-content interactions to a certain varying degree.

Student-content interaction may involve various educational technologies and tools, such as the PowerPoint presentation files, streaming audio and video applications, or even the individually generated items, such as the embedded links that can be shared, networked, and linked to other models and materials. The tools mentioned above are believed to provide socially interactive platforms of learning where students become responsible for creating their knowledge (Benbunan-Fich, 2002). They are also believed to enhance more effective discussions of the subject matter (Hillman, Willis & Gunawardena,1994).Thus, all these online interactions are enhanced by such multimodal networks that have provided new platforms for all learning systems.

Recent studies have explored the relationships between I.T self-efficacy (or computer competence) and a number of computer-based behaviours (Burkhardt&Brass,1990;Webster&Martocchio,1992).Hence, two types of self-efficacy can predict the students' success and their varying performance levels. First, the

positive attitude towards the subject matter and, second, the competence in using e-learning components to interact with teachers, content and classmates.

Significant research related to Educational Psychology has highlighted the role of students' self-efficacy in academic expectations and, therefore, performance (Chemers et al., 2001; Lent et al., 2008). Accordingly, students with high self-efficacy have shown greater academic expectations and displayed better academic performance than those with low self-efficacy (ibid). These findings confirmed with Bandura's conclusion when he stated that learning outcomes could be predicted by the level of self-efficacy of each individual, i.e., by their expectations of how successful they would perform in any given classroom setting (Bandura, 1997). Therefore, students' self-efficacy can influence learning outcomes, but not vice versa. In short, competence beliefs may positively enhance students' expectations and performance in the classroom settings. Nonetheless, more studies have to be conducted so as to decode the hidden complexities and connections between students' self-beliefs (e.g., self-efficacy, self-concept, self-esteem, etc.) and expectancy-value variables.

Academic Achievement: Definition and Tools of Measurement

Generally speaking, academic achievement is defined concerning the communicative (oral, reading, writing), and thinking skills and competencies (with regards to the subject matters of mathematics, science, and social science) that enable a student to succeed in school and, later on, in society. Most researchers tend to depend on standardized achievement tests in measuring academic outcomes, as many forms of scholarly achievement are not always easily measured. In this chapter, academic achievement refers to content-area achievement pertinent to the subject matters of mathematics, science, or social studies (e.g., history, geography) and, thus, it does not cover the content areas of English language arts (addressed in Chapter 4), foreign language or other humanities or cognition (except as it relates explicitly to science or mathematics problem solving). However, if the outcome measurement tool is a standardized test and the study assesses the reading and mathematics achievement of one or more educational subjects, then the topic of reading achievement is addressed. Many of the studies referred to in this chapter assess academic achievement by means of standardized achievement tests. Nonetheless, other studies use general school attainment measures, such as grade point average (GPA), high school drop-out rates, and attitudes toward school and school-related topics.

Teachers' Achievement Goals

Several theoretical frameworks that focus on value-related and expectancy-related components of motivation inside the classroom have been proposed. The achievement goals (Ahmed et al., 2020) (value-related) and self-efficacy beliefs (expectancy-related) are prominently used in the study of classroom-setting-based motivations,as itis believed that both variables equally matter for students.

The achievement goal approach is based on the cognition-based measurement, and it has successfully been used to measure the quality of teachers' achievement and motivations in primary, secondary, and higher education (Butler, 2007; Daumiller, Dickhäuser, &Dresel, 2019). Moreover, numerous studies revealed that there are established links between teachers' achievement goals, their attitudes, and the teaching-learning process in general (see Authors, 2020a; Butler &Shibaz, 2014).

Studies have identified different types of achievement goals, namely related to the task approach (the tendency to perform all professional tasks as should be done), the learning approach(the tendency to develop personal learning competence), performance approach (the tendency to achieve high-quality performance), performance-avoidance (the tendency to avoid low-level performance), relational goals (the tendency to establish reliable links and relationships with students), and work avoidance(the tendency to spend as little effort as possible) (Butler &Shibaz, 2014; Mascret, Elliot, &Cury, 2015; see Daumiller, Dickhäuser et al., 2019, for an overview model).

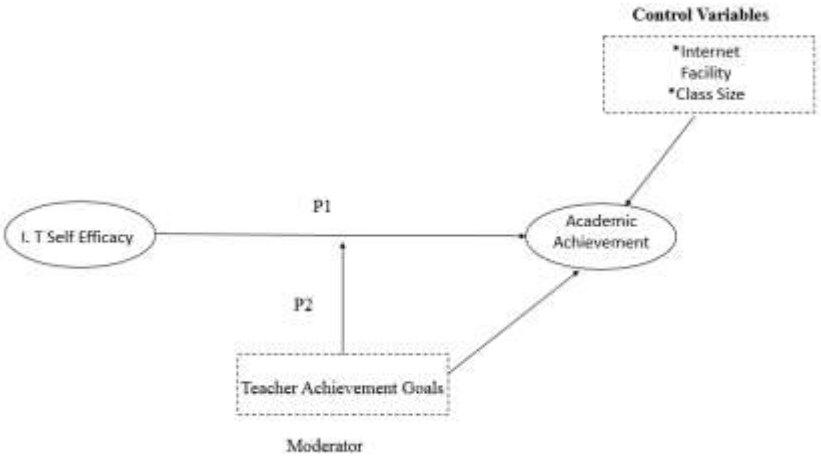
There are also other variables (or conceptual constructs) related to teachers' appearance (i.e., whether or not they are being perceived as competent and normative). As teachers are constantly under students' observation and criticism during teaching and presentation, such aspect of performance must also be identified and addressed as it may entail different effects and generate different impressions (Daumiller, Dickhäuser, et al., 2019; Elliot, 1999, 2005; Hulleman et al.,2010; Senko& Dawson, 2017). Appearance goals are assumed to be linked to the overall teaching-learning process and to the students' learning experiences than other variables. For this reason and more, we will address the appearance aspect of performance goals in this paper.

All in all, addressing the conceptual matters related to teachers' stylistic performance and Teachers' achievement goals is highly significant, as it can generate and predict perceptions and interpretations related to students' academic achievement in classroom settings. Such conceptual matters also affect teachers' awareness (of time management and other organizational strategies), and can shape their experiences with regard to social cognition. Most importantly, they have been proved to impact

students' academic achievement (Authors, 2020b; Butler, 2007; Butler &Shibaz, 2008). Theoretically, it is expected that task approach goals and approaches have strong links with the quality of teaching and performance. They are also linked to students' attitudes, as task goals are meant to elicit their responses to pay more effort. Throughout the two-way teaching-learning process, fulfilling task requirements is directly related to preparation, more appropriate decisions, more attention, and better interaction.

III. CONCEPTUAL FRAMEWORK

Based on the above literature, the current paper forwards the following framework for scholars to investigate:



The framework proposes to examine the association between students` I.T self-efficacy and academic achievement and Teacher`s achievement goals and students` academic achievement. Accordingly, the framework also proposes to test the moderation of teacher`s achievement goals on the relationship between I.T self-efficacy and academic achievement.

Prepositions

Based on the above framework, the current study proposes the following prepositions

P1: There will be a positive association between students` I.T self-efficacy and academic achievement.

P2: There will be a positive association between Teacher`s achievement goals and academic achievement.

P3: Teacher`s academic achievement will moderate the relationship between students` I.T self-efficacy and academic achievement.

IV. CONCLUSION

The current study proposes an important framework highlighting how academic achievement can be enhanced during the COVID-19 pandemic. The current forwards an interesting nexus of relationships for scholars to investigate how students I.T self-efficacy may likely help to boost their academic achievement. Following to this, the study proposes that teacher`s achievement goals can also be acute in predicting academic achievement.

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