

Assessment of Self-Efficacy and Learning Experiences of Junior High School Learners during Online Distance Learning

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Abstract: The unprecedented emergence of the coronavirus disease (COVID-19) had prompted educational communities to adapt contemporary pedagogical approaches and novel modes of delivery in teaching which support learning even with minimal physical interactions, as observed in virtual learning environments. We intend to examine the self-efficacy and learning experiences of Junior High School learners during distance learning. Self-efficacy here is defined in the context of student interaction with the following variables: (1) learning in an online environment; (2) time management; and (3) technology use. Quantitative data was gathered through the adaptation of Zimmerman and Kulikowich's (2016) framework of Online Learning Self-Efficacy Scale (OLSES). Results suggest that while students exhibit proficiency in self-efficacy and adaptability in virtual learning, challenges in relation to inconsistent internet connectivity and disrupting tasks at home are also encountered. In addition, inductive thematic analysis was conducted to gain subjective interpretation of the learners' shared narratives in relation to their learning experiences. While the flexible nature of an online learning environment provides an avenue for students to practice self-regulated learning and assess their personal efficacy, there are prevalent challenges which hinder students from effectively engaging with various internet and communication technologies.

Key Words: self-efficacy, Online Learning Self-Efficacy (OLSE), self-regulated learning, online learning environment, learning experiences

1. INTRODUCTION

The coronavirus disease (COVID-19) and its unprecedented emergence had engendered a widespread health crisis which resulted in radical consequences that affected numerous sectors such as public health, global economy, and education (Schleicher, 2020). According to a study co-authored by Pohkrel & Chhetri (2021), in order to effectively maintain learning continuity in the face of the pandemic, educational communities were compelled

to employ strenuous measures that constituted a paradigm shift, where teachers are encouraged to adapt contemporary pedagogical approaches and novel modes of delivery in teaching that supports learning even with minimized physical interactions.

This transition from traditional classes to virtual learning environments essentially altered the context of education, and how students interact with the materials and the actual learning process.

The flexibility of online learning enables it to be a conducive environment where students can practice various self-regulated learning (SRL) strategies (Winters et al., 2008), and utilize these strategies in the achievement of their personal academic goals (Littlejohn et al., 2015). In line with this, similar studies also posit that students with positive self-regulation exhibit greater self-efficacy (Panergayo & Mansujeto, 2020).

Bandura (1977) defines self-efficacy as an individual's belief in his or her capabilities to employ the set of actions and behaviors required to exhibit given performance attainments. In the context of education, this psychological construct captures the manner by which a student thinks, behaves, and approaches a task or a challenge. There is extensive evidence from past studies which remarks on the positive impact of self-efficacy towards students' academic functioning (Zimmerman & Schunk, 2003), and how it could be exercised as treatment to foster motivation among struggling students (Margolis & MacCabe, 2003).

It is worth noting that for students to effectively engage and interact in an online learning environment, they must be adept in navigating the computer and other forms and sources of digital media, as well as operating information and communication technologies (Panergayo & Mansujeto, 2020). In a related study by Irani (2000), students who had previous experiences with internet-based communication tools such as e-mails, online forums, and discussion boards were likely to accept and appreciate the usefulness of these tools.

A supplementary phase to Zimmerman's (1998) model of self-regulation involves time-management, which is a process that entails self-monitoring, and has been suggested to improve student academic success and achievement.

We examined the self-efficacy and learning experiences of Junior High School learners during distance learning. Self-efficacy here is defined in the context of student interaction with the following variables: (1) learning in an online environment; (2) time management; and (3) technology use. The investigation of this is grounded in Zimmerman and Kulikowich's (2016) framework of Online Learning Self-Efficacy (OLSE), which yields data necessary for the interpretation of student perception and beliefs in correspondence to online learning.

We hypothesize that the flexible nature of virtual learning would enable students to construct personal strategies to maximize their learning; which, in turn, would enhance both self-regulation and self-efficacy. We also posit that there is no significant correlation among the variables constituting Online Learning Self-Efficacy Scale (OLSES).

This paper aims to provide further explication of how academic self-efficacy: (1) influences the manner students engage and interact with online learning tools; (2) impacts time management strategies; and (3) affects student perception of the learning process in an online environment.

In the face of a pandemic, learning continuity demanded a shift to online education. There is a need to assess how pedagogy has adapted to changes that came with the transition to virtual learning, and how challenges in teaching and learning impact self-efficacy among students.

2. METHODOLOGY

2.1 *Research Design*

A mixed method research design was utilized in this study. Through the quantitative approach, the paper provides numerical data in relation to students' personal assessment of their self-efficacy as derived from survey responses. This aspect of the research design was grounded from Zimmerman and Kulikowich's (2016) OLSE in the assessment of students in the following domains: (1) learning in an online environment; (2) time management; and (3) technology use.

The qualitative aspect of the study focuses on the exposition of the learners' experiences while studying in an online set-up. The paper is designed to accurately describe these experiences through inductive thematic analysis.

2.2 *Respondents of the Study*

The respondents include thirty seven junior high school students enrolled in the academic year 2021-2022. The age of the respondents ranged from 14 to 20, in which a major percentage of the population (54.05%) is aged 15 years old. In terms of sexual identity, 64.87% were females and 35.13% were males.

Moreover, 2.70% of the respondents were Grade 7, 29.73% were Grade 9, and 67.57% were Grade 10.

Table 1
Participants' Demographics

Respondents' Characteristics	N		
	f	%	
Age	14	7	18.92
	15	20	54.05
	16	9	24.32
	20	1	2.70
Gender	Male	13	35.14
	Female	24	64.87
Grade	Grade 7	11	2.70
	Grade 9	11	29.73
	Grade 10	25	67.57

2.3 Research Instrument

The qualitative aspect of the study used a questionnaire with an open-ended question which encouraged the learner to narrate their experiences as they engaged in an online distance learning.

On the other hand, the quantitative aspect of the study utilized OLSES, a scale developed by Zimmerman and Kulikowich (2016). This scale consists of 21 items that assess online learning self-efficacy among learners in terms of the following domains: (1) learning in an online environment; (2) time management; and (3) technology use.

These items are then measured via a 6-point Likert scale, from 1 – “Poor” to 6 – “Expert”. This is in accordance to student self-assessment on their level of self-efficacy.

The overall assessment of each statement, in terms of the general mean, can further be verbally interpreted as follow: 1 to 1.83 = Poor (P); 1.84 to 2.66 = Fair (F); 2.67 to 3.49 = Good (G); 3.50 to 4.32 = Very Good (VG); 4.33 to 5.15 = Proficient (PR); and 5.16 to 6 = Expert (E).

Reportedly, OLSES acquired an overall reliability index of $\alpha = .961$. Table 2 presents the Cronbach's alpha of the three domains present in the scale. It implies that the reliability index of the first domain is excellent, while both the second and third domains can be interpreted as good.

Table 2
Instrument Subscales and Reliability Index

Domain	No. of Items	Cronbach's Alpha
Learning in an Online Environment	10	0.925
Time Management	5	0.880
Technology Use	7	0.897

2.4 Data Collection and Analysis

We first programmed the questionnaire in Google forms. The link to the Google form was then distributed among the target respondents via private chat messages. A consent form which entailed the objective of the study and reassured the respondents that utmost confidentiality would be practiced in both data collection and analysis was provided. In addition to the informed consent form, an assent form was also distributed amongst the minor participants.

The OLSE of the respondents' was analyzed through the implementation of appropriate statistical analyses with corresponding verbal interpretation. A Spearman's rank correlation was employed to determine if there is a significant correlation among the three domains of OLSE: (1) learning in an online environment; (2) time management; and (3) technology use.

Moreover, qualitative data was analyzed through the application of inductive thematic analysis. This method of content analysis constructs subjective interpretation of data through the systematic classification of codes, or recurring themes and patterns present in the responses. The assignment of codes were performed by all of the authors until a consensus was formed, which then resulted into the construction of a framework.

3. RESULTS AND DISCUSSION

Table 3 exhibits learners' self-efficacy in relation to learning in an online environment. The data below revealed a general mean of 4.55, which is equivalent to “proficient”, in the verbal interpretation. This implies that the respondents perceive that they were able to proficiently adapt to the drastic transition

to the online distance learning (ODL) modality. The verbal interpretation for most of the statements exhibits proficient level; furthermore, Q17 or “Use synchronous technology to communicate with others (Skype, Zoom, video calls, etc.)” reported the highest general mean ($M = 5.14$). Contrary to this, the lowest rating among all of the statements show a mean value of 3.68, which refers to the learners’ effective use of library’s online resources. Despite the lack of preparedness in the abrupt transition to a full online setup (Abbasi et al., 2020) such as the challenges in the internet connectivity, lack of appropriate devices for online learning, and lack of knowledge in the different online platforms for online education (Adnan & Anwar 2020; Chen et al., 2020), learners were able to adapt in their online learning environment.

Table 3
Means of Learning in an Online Environment

Question	Mean	VI
Q3 Communicate effectively with technical support via email, mobile phone, or live online chat.	4.70	PR
Q5 Overcome technical difficulties on my own.	4.30	VG
Q9 Learn to use a new type of technology efficiently.	4.81	PR
Q10 Learn without being in the same room with the instructor/teacher.	4.60	PR
Q11 Learn without being in the same room with other students.	4.70	PR
Q14 Communicate using asynchronous technologies (discussion boards, padlet, emails, etc.).	4.46	PR
Q16 Complete a group project entirely online.	4.57	PR
Q17 Use synchronous technology to communicate with others (Skype, Zoom, video calls, etc.).	5.14	PR
Q20 Use library’s online resources efficiently.	3.68	VG
Q21 When a problem arises, promptly questions in an appropriate forum (email, discussion board, google classroom, etc.).	4.60	PR
General Mean	4.55	PR

Table 4
Means of Time Management

Question	Mean	VI
Q7 Manage time effectively.	4.08	VG
Q8 Complete all assignments on time.	4.78	PR
Q15 Meet deadlines with minimal reminders.	4.65	PR
Q18 Focus on schoolwork when faced with distractions.	3.73	VG
Q19 Develop and follow a plan for completing all required work on time.	4.84	PR
General Mean	4.42	PR

Assessing the self-efficacy of the learners in the context of time management (refer to Table 4) revealed the lowest mean ($M = 3.730$), as seen in Q18 which refers to the learners’ capability to stay focused on schoolwork even when faced with distractions. This may be due to households not being a conducive learning space for every learners during ODL.

This is supported by a study authored by Subramanian (2016), in which results have shown that secondary students are inefficiently allocating their time on their daily activities, with minimal portion only left for studies. The challenge in balancing the time for academics, work, and various responsibilities turned out to reflect poor planning and inefficiency in prioritizing tasks (Stemmler, 2019).

Table 5
Means of Technology Use

Question	Mean	VI
Q1 Navigate online course materials efficiently.	4.21	VG
Q2 Communicate effectively with my instructor/teacher via email (Gmail, yahoo mail, messenger, etc.)	4.57	PR
Q4 Submit assignments to an online drop box such as Google drive.	4.81	PR
Q6 Navigate online grade book.	4.19	VG
Q12 Search the internet to find the answer to course-related questions.	4.84	PR
Q13 Search the online course materials.	4.54	PR
General Mean	4.54	PR

Since the learning modality transitioned to an online environment, the use of necessary technology of the respondents has “proficiently” increased ($M = 4.536$). Table 5 suggests that most learners utilize the internet in finding answers in various course-related question ($M = 4.838$), indicating “proficient” level of technology use. Having no choice but to adapt in the transition, reinforced the learners to be capable in navigating in various technological tools and online platforms. The perceived proficiency among the respondents aligns with Pinar (2021), who argued that learners acquire a wide array of information network and enhanced their learning experience as they use various technology.

As seen in Table 6, results of the Spearman rank correlation indicated that there was a significant positive association between learners’ time management and their technology use ($r(35) = .943, p < .005$). Correlation of these two domains is significant at the 0.01 level (2-tailed).

This implies that students who utilize the technology well practice better time management for their online learning. On the other hand, learning in an online environment showed no correlation in either of the other two domains. This is in contrary to the study of Heo et al. (2021), where they found technology use and time management to have a positive impact in the online learning environment.

Table 6
Mean Comparison and Spearman Rank Correlation of the Three Domains of Self Efficacy

Domain	# of Questions	Mean	SD	Spearman Correlation		
				Learning in an Online Environment	Time Management	Technology Use
Learning in an Online Environment	10	4.549	0.378	1.000	0.371	0.500
Time Management	5	4.416	0.487	0.371	1.000	0.943**
Technology Use	6	4.536	0.268	0.500	0.943**	1.000

Table 7
Inductive Thematic Analysis of Students’ Responses

Main Category	Sub-categories	Codes (Frequency of Statements)
Learners’ experiences during online distance learning	Overall experience in online distance learning	<ul style="list-style-type: none"> - Difficult and challenging learning environment (15) - Satisfaction with distance learning (9) - Adaptability from face-to-face classes to distance learning (8) - Problems in relation to distractions during class (6) - Lack of meaningful and engaging interactions (2) - “Rollercoaster ride” (2) - Negative experiences due to teachers (2) - Distance learning results to both physical and mental exhaustion (2)
	Academic performance	<ul style="list-style-type: none"> - Effective accomplishment of school requirement (4) - Self-study is instrumental to full understanding of lessons (2) - Good grades during online learning (1) - Lessons are harder to understand in an online set-up (2) - Poor performance (1)
	Engagement with internet, online applications, and devices	<ul style="list-style-type: none"> - Lack of access to stable Wi-Fi connection (3) - Familiarity with software applications (2) - Prolonged exposure to device lead to eyestrain and headache (2)

The systematic organization of responses defined a total of 16 codes and 3 sub-categories (refer to Table 7). The learners described in their narratives their: (1) overall experience of online distance learning; (2) academic performance; and (3) engagement with various internet and communication technologies. It can be inferred from the results that while some found distance learning to be a good experience, a major percentage of the population defined the experience as difficult and challenging. Factors which may have led to this outcome include: (1) lack of access to stable internet connection; (2) distractions during online class; and (3) physical and mental exhaustion brought about by studying in an online set-up, among others.

4. CONCLUSIONS

Based on the assessment of the self-efficacy and online learning experiences of the junior high school students, they exhibit a proficient level of OLSE in this type of learning modality. Though the respondents shared various challenges in relation to internet connectivity and distracting tasks at school and at home, they claim to adapt in the changes brought by the COVID-19 pandemic in the field of education. The proficiency of the respondents in all three domains of self-efficacy reflects the adaptability of the learners in shifting in an online learning environment from the traditional learning setup. A positive correlation was also found between learners' self-efficacy in terms of time management and technology use. This suggests that as the learners became more knowledgeable and aware of navigating or utilizing various technologies, they practice better time management for various, academic tasks.

We suggest to conduct further studies in finding correlation between the different domains with larger population. The study was only limited among junior high school students which seems to be a gap in the literature since there are only few studies that assessed OLSE in this level.

While the flexible nature of an online learning environment provides an avenue for students to practice self-regulated learning and assess their personal efficacy, there are prevalent challenges which hinder students from effectively engaging with various internet and communication technologies.

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