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The Impact of Distance Learning on High School and Higher Education Institutions Students' Self-Regulated Learning

أثر التعلم عن بعد على استراتيجيات التعلم المنظم ذاتيا لدى الطلبة في
مرحلة الثانوية والطلبة في مؤسسات التعليم العالي

by

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**Dissertation submitted in partial fulfilment
of the requirements for the degree of
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Abstract

The aim of the study is to examine the impact of distance learning on secondary school and higher education institutions students' self-regulated learning by measuring their attitudes and awareness of self-regulated learning before and during distance learning. Furthermore, the study emphasizes measuring teachers' support to the learners in developing self-regulated learning skills in addition to school leaders' roles in supporting teachers to promote students' self-regulated learning during the COVID-19 Pandemic in the online learning setting. The study is Mixed Method including surveys and open-ended interviews questions. Data was collected from participants including teachers (N= 128), students (N=12), and school leaders (N=5). The quantitative data analysis was demonstrated through the calculation of mean and standard deviation, while the qualitative data analysis was shown through Thematic Analysis. The results from teachers' quantitative data showed a neutral perception of supporting students' self-regulated learning during distance learning settings. However, findings from learners' data revealed they face challenges in coping with Resource Management Strategies in online learning setting in which they struggle to apply strategies efficiently; they experience self-regulation, motivational control, support seeking, and their technological skills as main challenges. Moreover, results of the Online Self-regulated Learning survey demonstrated that the learners show efforts to manage their online learning process in terms of goal setting, environment structuring, task strategies, time management, help-seeking and self-evaluation. As for the schools' leaders, the findings of the interview questions showed a positive level of knowledge in supporting teachers to foster students' online self-regulated learning during distance setting.

Keywords: self-regulated learning, distance learning, online learning

الملخص

تهدف الدراسة إلى تسليط الضوء حول تأثير التعليم عن بعد على التعلم المنظم ذاتيا (self-regulated learning) لدى طلبة المدارس الثانوية ومؤسسات التعليم العالي من خلال قياس مواقفهم ووعيهم بالتعلم المنظم ذاتيا قبل وأثناء التعليم عن بعد. بالإضافة إلى ذلك، تركز الدراسة على قياس دعم المعلمين للطلبة في تطوير مهارات التعلم المنظم ذاتيا، وكذلك أدوار مدراء المدارس في دعم المعلمين لتعزيز التعلم المنظم ذاتيا للطلبة أثناء جائحة كوفيد-19 في بيئة التعلم عن بعد. تعتمد الدراسة على منهج مختلط يشمل الاستبيانات وأسئلة المقابلات. تم جمع بيانات المشاركين بما في ذلك المعلمين ($N=128$)، الطلبة ($N=12$)، ومدراء المدارس ($N=5$). تم عرض تحليل البيانات الكمية من خلال حساب المتوسط والانحراف المعياري، بينما تم عرض تحليل البيانات النوعية من خلال التحليل الموضوعي. أظهرت النتائج من البيانات الكمية للمعلمين إدراكًا محايدًا لدعم التعلم المنظم ذاتيا للطلبة خلال بيئة التعلم عن بعد. ومع ذلك، كشفت النتائج من بيانات الطلبة أنهم يواجهون تحديات في التعامل مع استراتيجيات إدارة الموارد في بيئة التعلم عن بعد حيث يحاولون تطبيق الاستراتيجيات بكفاءة؛ يواجهون تحديات في التنظيم الذاتي، التحكم التحفيزي، البحث عن الدعم، ومهارات التكنولوجيا. علاوة على ذلك، أظهرت نتائج استبيان التعلم الذاتي المنظم عبر الإنترنت أن الطلبة يبذلون جهودًا لإدارة عملية التعلم عن بعد من حيث تحديد الأهداف، تنظيم البيئة، استراتيجيات المهام، إدارة الوقت، البحث عن المساعدة والتقييم الذاتي. أما بالنسبة لمدراء المدارس فقد أظهرت نتائج أسئلة المقابلات مستوى إيجابي من المعرفة في دعم المعلمين لتعزيز التعلم المنظم ذاتيا للطلبة خلال بيئة التعلم عن بعد.

Dedication

This dissertation is dedicated to my family, whose unwavering support and encouragement have been my foundation throughout this academic journey. The endless patience, understanding, and belief in my abilities have been invaluable.

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Table of Contents

Chapter 1: Introduction	1
1.1 Overview	1
1.2 Background	1
1.2 Aim of study.....	3
1.4 Research Questions:	3
1.5 Rationale of Study	4
Chapter 2: Literature Review	7
2.1 Overview	7
2.2 Theoretical Background of Self-Regulated Learning.....	7
2.3 Managing Academic Behavior.....	12
2.4 Asynchronous and Synchronous in Distance Learning Contexts	17
2.5 Educational System and Smart Learning in the Emirati school Context	18
2.6 COVID-19 Pandemic and Being a Self-regulated Learner During Distance Learning	19
2.7 Previous Studies Related to Online Self-Regulated Learning	24
Chapter 3: Methodology	29
3.1 Overview	29
3.2 Research Design	29
3.3 Participants.....	30
3.4 Measures	31

3.5 Teachers Survey: Self-Regulated Learning Skill Development	31
3.6 Students Survey: Questionnaire on Resource Management Strategies and the Online Self-Regulated Learning Questionnaire (OSLQ).....	33
3.7 School Leaders Open-Ended Questionnaire: Administrator Interview Questions.....	35
3.8 Ethical Considerations, Confidentiality and Anonymity of the Research	35
3.9 Validity and Reliability.....	36
Chapter 4: Data Analysis and Findings	37
4.1 Overview	37
4.2 Teachers Survey Findings.....	37
4.3 Students Survey Findings	52
4.4 Schools Leaders Interview / Open-Ended Questions Findings.....	65
Chapter 5: Discussion	73
5.1 Overview	73
5.2 Teachers Survey	73
5.3 Students Survey.....	76
5.4 School Leaders Open-Ended Interview Questions.....	80
Chapter 6: Conclusion	86
6.1 Conclusion	86
6.2 Limitations and Implications for Future Research	87
References	90
Appendices	103

List of Figures

Figure 1. Zimmerman's (2004) Phases and Subcomponents of Self-Regulated Learning.	11
Figure 2. Teachers Survey Q11	39
Figure 3. Teachers Survey Q12	39
Figure 4. Teachers Survey Q14	40
Figure 5. Teachers Survey Q 15	40
Figure 6. Teachers Survey Q 16	41
Figure 7. Teachers Survey Q 17	50
Figure 8. Teachers Survey Q 18	51
Figure 9. Teachers Survey Q 19	51
Figure 10. Teachers Survey Q 20	52
Figure 11. Students Questionnaire Q8.....	54
Figure 12. Students Questionnaire Q9.....	54
Figure 13. Students Questionnaire Q10.....	55

List of Tables

Table 1. SRL Strategies	14
Table 2. Pintrich's Conceptual Framework of Self-Regulated Learning.....	16
Table 3. A Conceptual Framework for Self-Regulated Learning Classroom	32
Table 4. Grade Levels and Cycles	38
Table 5. Questions for Each Phase and Area of Self-Regulated Learning	41
Table 6. Q 17 Phase 1: Forethought, Planning, and Activation	45
Table 7. Q18 - Phase 2: Monitoring.....	46
Table 8. Q 19 - Phase 3: Control	47
Table 9. Q 20 Phase 4: Reaction and Reflection	48
Table 10. Students' Current Academic Level	53
Table 11. Level that the Students were in During Academic Year (2020 – 2021)	54
Table 12. Changes and Adaptations: How University / High School Students Self-Regulate their Online Learning During the COVID-19 Pandemic	57
Table 13. Online Self-Regulated Learning Questionnaire	62
Table 14. Grade Levels and Cycles.....	65
Table 15. Question 1: Explain what Self-Regulated Learning Means to You?	66
Table 16. Question 2: How do you Perceive Your Role in Promoting Self-Regulated Learning During Distance Learning Environment?	66
Table 17. Question 3: Describe Ways You Ensure that Teachers are Prepared to Facilitate Students' Self-Regulated Learning During Distance Learning Environment?	67
Table 18. Question 4: Describe Ways You Encourage Teachers to Facilitate Students' Self- Regulated Learning During Distance Learning Environment?	68
Table 19. Question 5: What Resources are Provided to Help Teachers Facilitate Students' Self-Regulated Learning During Distance Learning Environment?	69

Table 20. Question 6: Have Teachers Indicated any Obstacles in their Attempts to Foster Self-Regulated Learning? If so, what are they?.....	70
Table 21. Question7: Describe the Distance Learning Environment in Your School and How it Aids Online Self-Regulated Learning?.....	70
Table 22. Question 8: Are there Ideas or Plans not Yet Realized that You Think Would Help Self-Regulated Learning During Distance Learning Environment? How are these Being Pursued?	71

Definition of Terms and List of Abbreviations

- **Self-Regulated Learning (SRL):** Self-regulated learning is a method of obtaining knowledge and skills in which the students are independent and enthusiastic. Learners individually select their objectives and learning strategies that will cause accomplishing those objectives.
- **Online Learning:** Online education is identified as education being provided in an online context by the internet for the teaching and learning process.
- **Distance Learning:** Online distance learning is an adaptable strategy that enables learners to study wherever they are aligned with other life responsibilities based on digital technology tools. Furthermore, it is defined as full online teaching and learning that comprises using MS Teams as an instantaneous conference-lesson instrument, use of LMS platform as setting for instructive plans, self-assessment quizzes and assignments, and lastly use of Swift Assess for managing online assessments (Bawa'aneh, 2021).
- **Cycle 1:** The first cycle of basic education is equal to the first level of The International Standard Classification of Education (ISCED) system. It covers grades 1-4 which include age-group: 6-9 (4 years).
- **Cycle 2:** The second cycle of basic education is equal to the second level of ISCED system. It covers grades 5-8 which include age-group including 10-14 (4 years).
- **Cycle 3:** Academic track includes grades 9-12, equal to the third level of ISCED.

Chapter 1: Introduction

1.1 Overview

The chapter concentrates on introducing the topic in terms of defining and describing self-regulated learning, how it is linked to online learning contexts, and studies done regarding self-regulated learning. Moreover, it demonstrates the purpose of study, the research questions, and the rationale of the study.

1.2 Background

There have been various studies concentrated on the field of blended and online learning and how to manage or utilize appropriate tools and use various online learning strategies to enhance the process of teaching and learning. The most important aspect of online learning or blended learning lately, however, emphasizes how prepared the education system and schools are including schools' principals, teachers, students, school staff and parents in case if any emergencies or pandemics occurred which require the schools to be closed. As a result, students in different grade levels including K-12 and higher education institutions have an alternative to face-to-face or traditional teaching setting to be shifted through receiving education from home in which the traditional instruction transfers to online distance learning settings. Online distance learning is an adaptable method that lets learners to study anywhere they are associated with other life responsibilities according to digital technology tools (Hazaymeh , 2021). About the online learning, it is described as a type of learning in which learners are provided with adaptability in choosing location and time for learning. Learners are provided more control in terms of when and how they accomplish course learning activities and tasks, which is helpful for learners who are not being able to join traditional programs due to external factors including job concerns, family responsibilities, and ease of access to college or university (Joosten & Cusatis, 2020). According to Singh & Thurman, (2019), Online

education is described as utilizing the internet for teaching and learning which is provided in an online setting. Additionally, the teaching content is carried out online, and the teaching modules are developed by teachers or instructors that enrich learning and communication through the synchronous or asynchronous setting (Singh & Thurman, 2019).

The various levels of supporting online learning throughout the COVID-19 pandemic in different countries showed many procedures and processes about how prepared the education systems towards e-learning. In the learning process, students are the ones who are mostly affected by how planned and safe the learning environment is and how it meets their academic, emotional, social, and psychological needs. For instance, self-regulation skill is considered one of the skills that contributes to students' success. Students are provided with opportunities to be promoted by effective learning and to prepare their self-regulation skills when studying at home during educational disruption. As a result, the combined efforts of UNESCO International Research and Training Centre for Rural Education (INRULED), UNESCO IITE, Smart Learning Institute of Beijing Normal University (SLIBNU), and other stakeholders, released of the handbook entitled "Guidance on Active Learning at Home during Educational Disruption: Promoting student's self-regulation skills during COVID-19 outbreak" (UNESCO, 2020).

Self-regulated learning is about the learners who determine particular learning objectives, monitor their development toward those goals, and reflect on that learning to realize if the use of their approaches was helpful in terms of achieving a specific goal (Zimmerman, 2000, 2008 as cited in Hong, Lee, & Ye, 2021). SRL is defined as a cyclical method during which students successively move from the forethought phase through the performance phase to the self-reflection phase (Zimmerman, 2000; Zimmerman & Moylan, 2009 as cited in Alten, Phielix, Janssen, & Kester, 2021). In the *forethought phase*, the task

such as goal setting and planning is analyzed. Students' task analysis and the stimulation of learning strategies are affected by motivational beliefs including self-efficacy, task importance, and objective alignment (Panadero, 2017). In the *performance phase*, students work on the learning tasks, and at the same time they monitor their progress metacognitively. The self-control strategies are demonstrated including time management and help-seeking (Alten, Phielix, Janssen, & Kester, 2021).

Teachers and school principals have important roles in promoting students' self-regulated learning. For students to achieve their full potential in the learning process, teachers need to have knowledge of their learning needs. For instance, researchers constantly showed that positive effects on the learners' development of SRL occurred due to the modifications teachers made to the learning setting and their teaching methods (Perry & VandeKamp, 2000; Perry, VandeKamp, Mercer, & Nordby, 2002; Perry et al., 2004 as cited in Lombaerts, Backer, Engels, Braak, & Athanasou, 2009).

1.3 Aim of Study

This study aims to investigate the impact of distance learning on secondary school and higher education institutions students' self-regulated learning by measuring their attitudes and awareness of self-regulated learning before and during distance learning. Furthermore, the study focuses on measuring teachers' support and practices for their students to develop self-regulated learning skills as well as school leaders' roles in supporting teachers to facilitate students' self-regulated learning during the COVID-19 Pandemic in the online learning environment.

1.4 Research Questions:

The research questions are divided based on the target groups in the study. First is about measuring to what extent students were able to manage Resource Management Strategies and their perspectives on Online Self-regulated Learning in the online learning

setting. Next for teachers, the focus is on their support and practices for their students to develop self-regulated learning skills during the COVID-19 Pandemic in the online learning environment. Furthermore, there is an importance on the role of school leaders in terms of supporting teachers to facilitate students' self-regulated learning in the online learning context.

Students:

- How do students use self-regulated learning strategies in their learning process before and during distance learning setting through School Academic Year (2020 – 2021)?

Teachers:

- To what extent are teachers providing support to their students to develop self-regulated learning skills during distance learning setting through School Academic Year (2020 – 2021)?

School Principals:

- How do school principals or school leaders support teachers to facilitate students' online self-regulated learning during distance setting through School Academic Year (2020 – 2021)?

1.5 Rationale of Study

Most countries have encountered various levels of challenges to getting used to the New Normal and getting back to normal life during the COVID-19 Pandemic. In the fields related to education and pedagogy, specifically students in different age groups have knowledge and they can easily get prepared for online learning environments. In other words, even though students can be equipped with a high level of digital skills that enable them to continue their learning progress, it is important to prepare them with self-regulated learning skills so they can be independent and life-long learners. Being able to process, control, monitor and evaluate knowledge or learning is not an option but an essential

aspect that every student needs to acknowledge and learn how and when to use them during their studies, and education.

In a study done about cognitive, metacognitive, and motivational perceptions on prefection in self-regulated online learning, it was indicated that SRL seems to be essential for learners in online learning contexts that provide high levels of learner independence and low levels of teacher authority (Lehmann, Hähnlein, & Ifenthaler, 2014). To illustrate, students need to learn to become independent learners due to the nature of distance learning settings as the communication with the teacher will not be taking place in in-person learning settings. As a result, the importance of Zimmerman's model that it derives from social-cognitive notion that focus on both motivational aspects and learning approaches that have a high independent learning environment (Wong, et al., 2019). Broadbent and Poon (2015), reviewed studies analyzing the association between nine SRL strategies (i.e., metacognition, time management, effort regulation, critical thinking, elaboration, rehearsal, organization, help-seeking, and peer learning) and online academic achievement. The findings from the 12 studies reviewed demonstrated that metacognition, managing of time, regulating of effort, and critical thinking were associated with online academic success. In the study there were only nine SRL strategies that were analyzed; therefore, it is likely that there are other SRL strategies that support online academic achievement.

Contributing students' SRL can be supported by teachers, so it is important for teachers to be trained and keep their awareness up to date in regard to self-regulated learning skills. A study done by Ewijk (2016), aimed to explore the effect of possible elements for teachers' promotion of SRL, comprising beliefs, self-efficacy, and awareness, on teachers' self-reported promotion of SRL in the classroom to discover which teacher attributes should be emphasized when guiding teachers about SRL. The findings provide

new perceptions of teacher beliefs and how they might credit for teacher (self-reported) behavior about the support of SRL. The more teachers think qualified to instruct self-regulation strategies, and to facilitate self-regulating students, the more they inform to encourage more SRL during teaching. Additionally, the more teachers inform believing that students view how SRL is helpful for them, the more they report supporting their students by providing them with self-regulation approaches. Lastly, the more teachers have an understanding of how to promote SRL, the more they state to exhibit encouraging teaching behavior regarding SRL.

Chapter 2: Literature Review

2.1 Overview

This chapter outlines the important theoretical concepts and related previous studies of Self-regulated Learning during distance learning settings.

2.2 Theoretical Background of Self-Regulated Learning

Self-regulation is about how an individual monitors and manages his / her cognitive processes in addition to the perception of and management of an individual's emotional, motivational, behavioral, and contextual aspects of learning (Nilson, 2013). Moreover, according to Hall & Goetz (2013), *Self-regulated Learning* can be defined as a method of obtaining knowledge and skills in which the learners are autonomous and enthusiastic. Learners individually select their specific objectives and learning strategies that will help them accomplish those objectives. Learning can be modified and enhanced by assessing the efficiency of one's learning strategies by linking one's existing state with the goal state. *Behavior* includes self-discipline; attempt; time management; and when considered needed, help-seeking from the teacher or some other more experienced individuals (Karabenick & Dembo, 2011 as cited in Nilson, 2013). The *Environment* includes the usage of technology, task management, and sensory involvement, such as location, temperature, background noises, and physical setting. An individual must determine what kind of environment is appropriate for his / her learning (Nilson, 2013).

The notion of self-regulation developed from Albert Bandura's seminal theory of self-efficacy (Zimmerman & Schunk, 2003 as cited in Nilson, 2013), which was later integrated into social cognition theory. As studying children, Bandura (1977, 1997 as cited in Nilson, 2013) discovered that beliefs about their own self-efficacy appeared to define how efficiently they understood they could self-regulate their concepts and behavior. Therefore, self-regulated children are able to learn more, which helps them to develop self-

efficacy. These findings led Bandura (1986) to urge educators to incorporate self-regulated learning into the classroom (Nilson, 2013). In order to improve students' self-efficacy and learning, he recommended that teachers consider these three practices: observing and monitoring the performance of their students; evaluating their performance against their personal standards and values, their referential performances, and their factors of performance; and finally, their cognitive, affective, and concrete responses to performance evaluations, including self-correction.

Forethought, performance, and self-reflection are the three phases of self-regulated learning that Zimmerman (1998, 2002) proposes as shown in **(Figure 1)**. Every phase includes two “classes” or classifications of more specific mental processes as the following (Nilson, 2013):

- ***Forethought phase***

- Class #1: **Task analysis**, which consists of goal setting and strategic planning (Nilson, 2013). When *setting goals*, you determine what you want to accomplish, such as completing a series of division problems in mathematics during a study session (Locke & Latham, 1990 as cited in Boekaerts, et al., 1999). The second form of task analysis is *strategic planning*. For mastering and performing a skill in the best way, learners need techniques that are suitable for the task and the setting (Boekaerts, Zeidner, & Pintrich, 1999).

- Class #2: **The self-motivation beliefs** comprise self-efficacy beliefs about learning, expectations about the personal outcomes of learning, intrinsic interest in the task, and goal orientation. (Nilson, 2013). An individual's *self-efficacy* refers to his or her belief in being able to learn or perform effectively, while his or her *outcome expectations* refer to how the essential ends of that performance will be achieved (Bandura, Self-efficacy: The exercise of control, 1997). An individual's level of *self-efficacy* is determined

by their belief in their ability to organize and apply the actions necessary to perform a skill in a particular situation (Bandura, Self-efficacy: The exercise of control, 1997). For instance, self-efficacy is about the belief that an individual can achieve a course grade of A, and outcomes are related to expectations about the results this grade will make after graduating, such as a suitable career. Through time, process goal seekers start to see result incentives simply as milestones in a lifelong skill process. Therefore, process achievements provide a sense of intrinsic motivation and value that can outweigh extrinsic rewards (Deci, 1975 & Lepper & Hodell, 1989).

• ***Performance/Volitional Control phase***

° Class #1: **Self-control**, which comprises the usage of imagery, self-instruction, attention focusing, and application of task strategies (Nilson, 2013). Students can benefit from *self-instruction* by verbalizing how they progress as they perform a task, such as solving a mathematics problem or memorizing a formula, according to research (Schunk, Verbal self-regulation as a facilitator of children's achievement and self-efficacy, 1982). Another method to help encoding and performance is *imagery*, or the forming of mental pictures (Boekaerts, Zeidner, & Pintrich, 1999). Furthermore, *attention focusing* is created to develop one's absorption. Regarding *task strategies*, it helps learning and performance by lessening a task to its important parts and rearranging the elements implicitly (Boekaerts, Zeidner, & Pintrich, 1999).

° Class #2: **Self-observation**, which involves self-recording and self-experimenting (examining options to see what works best) (Nilson, 2013). *Self-recording* increases feedback precision, proximity, and informativeness greatly when used as a self-observational technique (Zimmerman & Kitsantas, Self-regulated learning of a motoric skill: The role of goal setting and self-monitoring, 1996). Self-observation can cause cycles of *self-experimentation* (Bandura, Self-regulation of motivation through anticipatory and

self-reactive mechanisms, 1991). Individuals may engage in personal experimentation by adjusting in depth the attributes of their performance that are in question when self-observation of natural variations in behavior fails to offer significant diagnostic information.

• ***Self-Reflection phase***

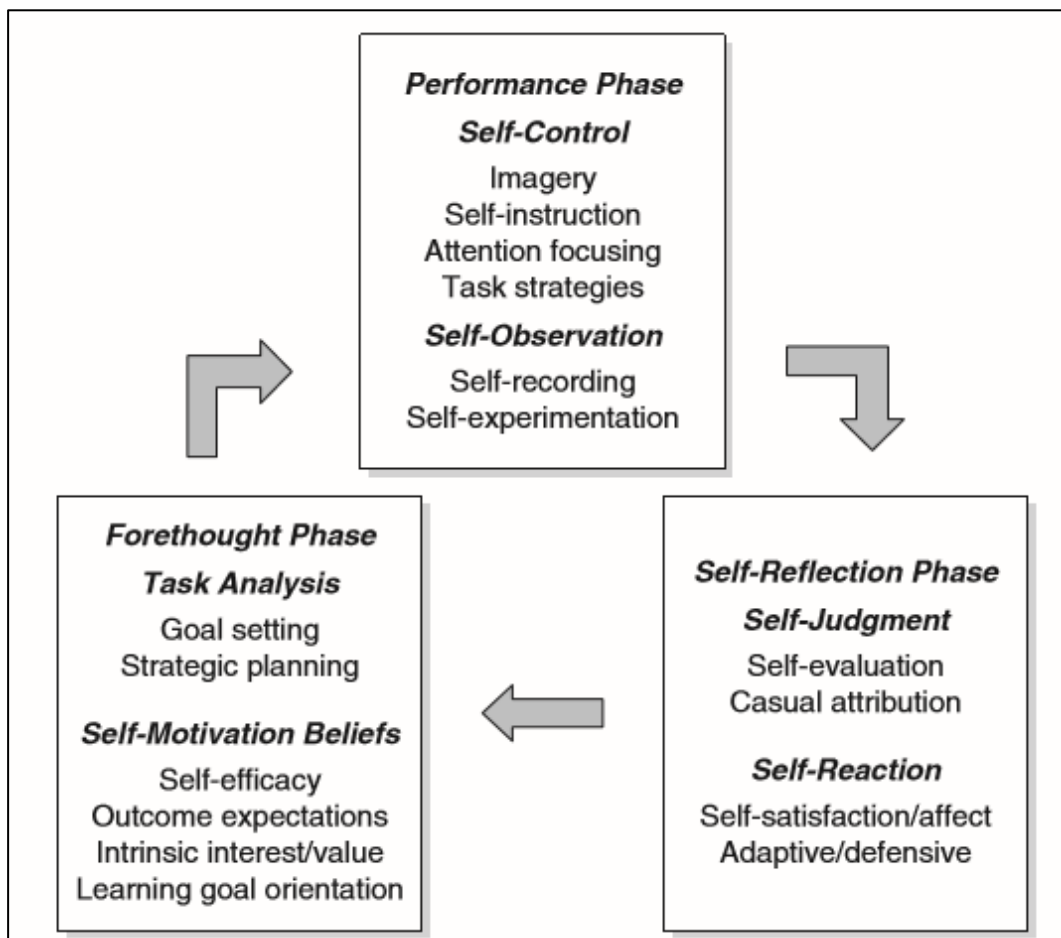
° Class #1: An individual's **self-judgment** includes assessing his or her performance against standard (his or her past performance, another individual's performance, or a definite standard), along with his or her causal attributions of results (Nilson, 2013). An evaluation of one's own performance refers to comparing it with a standard or goal (Boekaerts, Zeidner, & Pintrich, 1999). Self-reflection involves these judgments about attributions of inaccuracies because attributions of inaccuracies to a stable ability make learners react negatively and hinder improvement efforts (Weiner, 1979). The assessment of attributes is based on the cognitive appraisal of moderating factors such as personal effectiveness perceptions and justifications based on environmental factors (Bandura, Self-regulation of motivation through anticipatory and self-reactive mechanisms, 1991).

° Class #2: In **self-reaction**, levels of self-satisfaction determine whether further motivation increases or decreases, and adaptive/defensive adjustments determine whether more effective learning strategies are employed next time, or whether self-image protection, such as dropping the class, is employed (Nilson, 2013). Individual self-satisfaction includes perceptions of satisfaction or dissatisfaction regarding their performance and related effects, which are significant since people pursue actions that lead to satisfaction and encourage effects, while avoiding those actions that lead to dissatisfaction and negative affect, such as nervousness (Bandura, Self-regulation of motivation through anticipatory and self-reactive mechanisms, 1991). Regarding *adaptive*

or *defensive inferences*, they are decisions about the need to modify a self-regulatory approach during following efforts by an individual to learn or perform (Boekaerts, Zeidner, & Pintrich, 1999).

Figure 1

Zimmerman's (2004) Phases and Subcomponents of Self-Regulated Learning (Davis, Summers, & Miller, 2012).



Motivation and Regulatory Process of Self-Regulation

Performing well academically is dependent on *self-efficacy*. This refers to learners' belief that they are capable of organizing and executing actions to achieve specific objectives (Bandura, 1997). When faced with test anxiety or the temptation to put aside an important assignment, students with high self-efficacy choose to persevere. However, low self-efficacy beliefs may lead students to succumb to temptations as well as allow

disruptive thoughts to interfere with their academic performance. An individual's *self-regulation* affects their outcome expectations, which refers to their belief that their actions will lead to desired outcomes (Bandura, 1997). Almost all fields of human development and learning can benefit from self-regulation, including classroom instruction, college, and medical settings, sport, and industrial organizational tasks. Learners' intrinsic interest influences self-regulation, which is the enjoyment they get from participating in a task for the sake of learning, and extrinsic interest, which is their involvement in a task for a reason other than learning (Bembenutty, 2011).

2.3 Managing Academic Behavior

According to Dembo & Seli (2012), there are six major components of academic self-regulation. Learning the self-regulatory skills connected to each of these components can support individuals apply control on their own learning and promote their own academic achievement (adapted from Zimmerman & Risemberg, 1997):

1. **Motivation:** It is important for college students to focus and manage personal and environmental distractions in order to be successful learners. Learners use various methods to control characteristics of their behaviors. For instance, one example of self-regulatory process is: “When I start worrying on an exam, I immediately begin convincing myself that I can do well if I take my time.” Motivating self-regulation is one way to develop and maintain these beliefs through *goal setting* strategies. *Goal setting* is frequent and constant among high achievers compared to low achievers based on educational research (Zimmerman & Martinez-Pons, 1986). As individuals work toward personal goals, they attend to instruction more attentively, contribute more, and gain confidence as they progress.

A second motivational self-regulation technique is *self-verbalization or self-talk*. There are different forms of this procedure. For instance, when the desired

behavior is achieved, verbal reinforcement or praise can be used. An individual can simply tell himself/herself things like: “Great! I did it!”. A motivational self-regulation technique involves imagining or arranging rewards or punishments in response to academic success or failure. Students who control their motivation by rewarding themselves and punishing themselves perform better than those who do not implement this strategy (Zimmerman & Martinez-Pons, 1986).

2. **Methods of learning OR Learning strategies:** Learning strategies are the techniques learners utilize to acquire information such as underlining, summarizing, and outlining. Learners cannot become successful simply by acquiring new learning and study skills. They also must handle their motivation (i.e., beliefs and perceptions) regarding a task.
3. **Use of time:** Students with better time-management skills are likely to have a higher grade than students with weaker time-management skills. If an individual has difficulty managing time, he or she turns out to be doing what is most important when a decision is taken on which task to do first.
4. **Physical environment:** According to Zimmerman and Martinez-Pons (1986), the students with high achievements reported better use of environmental reorganization and were more likely to obtain assistance from others than were low-achieving students. Generally, environmental restructuring identifies finding areas to study that are calm or not disturbing.
5. **Social environment:** The ability to self-regulate social interactions refers to the extent to which a person can decide whether to work independently or in collaboration with others, and when to contact instructors, tutors, peers, and nonsocial resources for assistance. Researchers have found that high-achieving students have a higher tendency to look for support from instructors than low-achieving students, the exact opposite of what one would expect (Newman & Schwager, 1992).

6. **Monitoring performance:** One of the main purposes of a *goal* is to deliver an opportunity for a student to identify an inconsistency between it and his / her current performance. This analysis allows an individual to make adjustments in the learning process. Monitoring one's performance in a variety of learning environments (e.g., while taking tests or studying) allows students to determine if changes need to be made in how one learns and studies (Dembo & Seli, 2012).

Due to how assignments or projects can be identified as complex and challenging for students sometimes, there is a need for students to effectively manage their time, motivate themselves, or structure a suitable learning environment when practicing their academic skills. As a result, they need to implement SRL-focused strategies (**Table 1**) (Cleary, 2018).

Table 1

SRL Strategies

SRL strategies	Description
Help seeking	Procedures to receive support from others when confronting challenge or difficulty on a learning activity (asking a teacher, parent, classmate for help)
Seeking information	Procedures to receive knowledge about a learning activity from non-social sources such as textbooks, internet, etc.
Planning	Procedures to direct the structure and timing of behaviors to achieve a learning activity (e.g., time management, outlines)
Monitoring/keeping records	Procedures in which behaviors, thoughts, or performance are tracked or recorded (e.g., self-monitoring forms, checklists)
Self-evaluation	Procedures where the quality of learning, progress or improvement, or assignment achievement are evaluated (e.g., self-testing or quizzing)
Self-motivation	Procedures to increase motivation for achieving learning activities (e.g., self-consequences, positive, self-talk).
Attention-focusing	Procedures in which learning activity is given a focus or direct attention

Note. Sources: Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013; Wolters, 2011; Zimmerman & Martinez-Pons, 1986 as cited in (Cleary, 2018).

Another framework of self-regulated learning is one was developed by Pintrich 2005 (Hall & Goetz, 2013). According to Boekaerts, et al. (1999), a general working description of *self-regulated learning* is that it is a dynamic, constructive procedure in which learners establish objectives for their learning and then determine to monitor, regulate, and control their cognition, motivation, and behavior, directed and constrained by their objectives and the circumstantial structures in the environment. **Table 2** demonstrates a framework for categorizing the various phases and areas for regulation. The four phases that set up the rows of the table are processes shared by many models of regulation and self-regulation. The phases reflect goal setting, monitoring, and control and regulation processes. **Phase 1** consists of **planning and goal setting** along with stimulation of perceptions and knowledge of the task and setting and the self in terms of how it is related to the task. **Phase 2** involves different **monitoring** procedures that signify metacognitive awareness of various aspects of the self or task and context. **Phase 3** includes efforts to **control** and regulate various aspects of the self or task and context. Finally, **Phase 4** symbolizes different forms of **reactions and reflections** on the self and the task or context (Boekaerts, Zeidner, & Pintrich, 1999).

Table 2*Pintrich's Conceptual Framework of Self-Regulated Learning*

Phases	Areas for regulation			
	Cognition	Motivation/Affect	Behavior	Context
Forethought, planning, and activation	Target goal setting Prior content knowledge activation Metacognitive knowledge activation	Goal orientation adoption Efficacy judgments Perception of task difficulty Task value activation Interest activation	Time and effort planning Planning for self-observation of behavior	Perceptions of task Perceptions of context
Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help Self-observation of behavior	Monitoring changing task and context conditions
Control	Selection and adaptation of cognitive strategies for learning and thinking	Selection and adaptation of strategies for managing motivation and affect	Increase or decrease effort Persist, give up Help-seeking behavior	Change or renegotiate task Change or leave context
Reaction and reflection	Cognitive judgments	Affective reactions	Choice behavior	Evaluation of task Evaluation of context

The four columns in **Table 2** symbolize various areas for regulation that an independent learner (the personal self) can try to monitor, control, and regulate. Based on the traditional triple division of psychological functioning, the first three columns are *cognition, motivation/affect, and behavior* (Snow, Corno, & Jackson, 1996). An individual's cognition, motivation, or behavior can be "other-regulated" by other people in the environment, such as teachers, peers, or parents, by guiding or scaffolding them regarding what, how, and when to do certain tasks (Boekaerts, Zeidner, & Pintrich, 1999). In general, other task and contextual elements (e.g., task characteristics, feedback systems, evaluation structures) can support or hinder an individual's efforts to self-regulate his or her learning (Boekaerts, Zeidner, & Pintrich, 1999). This shows the importance to be aware as teachers or peers or parents about providing support to an independent learner when he/she is seeking help in the learning progress, especially in distance learning which is considered a new learning setting for most students in schools or higher education institutions.

According to Boekaerts, et al., (1999), the ***cognitive*** column in **Table 2** emphasizes the various cognitive strategies learners may use to learn and perform a task in addition to the metacognitive strategies learners may use to control and regulate their cognition. Individuals may have several motivational beliefs related to the task in the ***motivation and affect*** column, such as self-efficacy beliefs and task values. Additionally, a positive or negative affective reaction to the self or the task as well as interest or liking of the task would be included in this column. Finally, It would be incorporated in this column any strategies that individuals might use to control and regulate their motivation and affect. The ***behavior*** column indicates the general effort the individual may apply on the task along with perseverance, help-seeking, and choice behaviors. The fourth column in **Table 2**, ***context***, exemplifies different aspects of the task environment or general classroom where the learning is arranged. Due to the external environment involved in this column, efforts to control or regulate it may not be considered self-regulating as the ***context*** is not considered an integral part of the individual.

2.4 Asynchronous and Synchronous in Distance Learning Contexts

In a distance learning environment, learning and communication between learners and teachers occur through asynchronous and synchronous settings. Asynchronous settings are based on independent time, and place which is specified as more autonomous, self-paced and less instructor-dependent (Bernard et al., 2004; Murphy et al., 2011; Clark and Mayer, 2016; Xie et al., 2018 as cited in Fabriz, et al., 2021). In asynchronous settings, learning at home or distance learning needs more self-study skills to be able to perform on the track, as well as enough motivation and determination to go along with learning objectives (cf. Hartnett, 2015 as cited in Fabriz, et al., 2021). As a result, learners should be prepared with solid digital skills to achieve academic work and successfully perform learning activities (Kim, Hong, & Song, 2019). In terms of synchronous settings, students

can attend virtual classes from any place using any device connected to the internet (Nieuwoudt, 2020). With the usage of web conferencing products such as Blackboard Collaborate, synchronous virtual classes can be very interactive. The learners and the instructor can interact online during live synchronous sessions as well as presentation slides can be uploaded, and communication can be done verbally or by exchanging messages through typing in the chat box and writing on the shared whiteboard. (Nieuwoudt, 2020).

Due to the COVID-19 pandemic, distance learning was one of the key aspects that most countries worldwide have embraced to keep and maintain education and the learning process proceeding. For this reason, access to online education has become one of the important concepts in which in reality and recently became about how to be implemented considering students who need to have digital skills, teachers need to have the real-life experience of teaching online and know how to use all related platforms and tool as well as having school be prepared for all requirements to cope with online or distance learning. A recent study investigated the students' experiences in emergency online learning. The research aimed to examine the effect of different pedagogical methods used in the online classroom and students' ability to preserve high motivation to engage with the learning content by using the learning platform metadata and student survey responses. The results of this study indicate that students' motivation, learning, and academic achievement can be supported by providing them with multiple opportunities to engage through the use of both synchronous and asynchronous tools (Al-Areibi, A. Dickson, & Kotsopoulos, 2022).

2.5 Educational System and Smart Learning in the Emirati School Context

There grade levels in the school system in the UAE are based on three cycles from elementary to high school. First, elementary education includes two stages. The first stage (cycle 1) includes grades from 1 to 4 and pupils from the age group 6 – 9 years old. The

second stage (cycle 2) includes grades 5 to 8 and pupils from the age group 10 – 14 years old. Additionally, secondary school (cycle 3) which includes grades 9 to 12. The secondary education stage is provided with a set of academic and technical/vocational tracks in the Emirati School, which provide various opportunities for learners to join in based on their capabilities and preferences (Ministry of Education, The National Educational System, 2020 - 2021).

Several smart learning platforms have been implemented within the Ministry of Education in order to achieve the UAE Vision 2021 as well as the Centennial 2071 initiative, which aims to provide the best educational technology available (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)). Furthermore, in its plan for the Emirati School project, which adopts a global model that looks forward to everyone's future, the Ministry has developed the field of technologies in order to stay on top of the best international educational systems that are well-suited to the state's direction and future plans, while contributing to the development of high personal abilities in its graduates. As part of this project, an attractive learning environment is provided and strategies have been developed (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)).

2.6 COVID-19 Pandemic and Being a Self-regulated Learner During Distance Learning

COVID-19 is defined as a disease occurred by a new form of coronavirus. The COVID-19 virus is a new virus associated with the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some forms of the common cold (UNICEF, WHO, & IFRC, 2020). Regarding the symptoms, it includes fever, cough, and shortness of breath. Additionally, it can transfer to become more severe that including infection that cause pneumonia or breathing difficulties, as well as the disease can be fatal (UNICEF, WHO, &

IFRC, 2020). COVID-19 is spread in three major ways. The first way is by breathing in the air when being near or close to an individual who is infected and exhaling small droplets and elements that include the virus. The second way is through having these small droplets and particles that include the virus reach the eyes, nose, or mouth, particularly through splashes like a cough or sneeze. The third way of spread is when the eyes, nose, or mouth are touched with hands that have the virus on them. (CDC, 2022). Due to how easily the disease is spread and infection increases between people, masks were required to reduce the amount of virus we breathe in and breathe out. Combined with the vaccines, masks can decrease the probability of spread. Additionally, masks provide safety for the wearer, even those who are fully vaccinated (Harvard Health Publishing , 2022).

While countries and health organizations were well-prepared in terms of preparing and providing vaccinations and procedures or protocols guidance of the pandemic on various community levels, physical distancing was a key aspect to reduce the spread of the disease. It suggests actions are taken to stop or delay the spread of a contagious disease. For an individual, it means keeping enough distance (six feet or more) between himself/herself and another person to prevent having been infected or infecting someone else. Instructions in terms of physical distancing can include working from home, and face-to-face meetings and bigger events are to be canceled to support implementing physical distancing at a community level (Harvard Health Publishing , 2022). In other words, individuals at different community levels were receiving directions to shift the in-person meetings, work, education, and events to be done online to keep and maintain physical distancing to reduce the spread of COVID-19.

In terms of the education that is to be continued during distance learning, the education system in the UAE was a pioneer in developing regulations and educational systems that would promote implementing distance learning according to the educational

policies and regulations that have been formed through many years to encourage e-learning as one of the branches of the form an advanced Emirati school that preserves pace with changes and reacts to the ambitions of its students. For students to continue learning under any circumstances, the UAE has shown the effective educational policies by managing the developments in the COVID-19 epidemic and ensuring the sustainability of education through distance learning (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)). Public and private schools licensed by the Ministry of Education may implement the Virtual Learning Environment Policy to all qualified students at pre-primary, primary, and secondary levels of education. (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)).

In the schools based on the UAE contexts, there are three phases of Virtual Education Scenarios which include the hybrid model, additional hybrid model, and full-time virtual education. In terms of the hybrid model, virtual learning is an alternative of lessons required in-person in the classroom based on the curricula. The percentage of hybrid learning can be augmented or reduced by the Ministry based on the outcomes of the analysis of the reality study, as well as after measurement of the effect of the application. Occasionally, an additional hybrid model is used when virtual learning shifts lessons at a rate higher than what is required by the hybrid model, such as when ill students are located within and outside of the country, patients in need of support, and People of Determination are involved. In some cases, virtual education is provided full-time to home students, students of smart summer classes, and sick students both inside and outside the country via the virtual learning environment (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)).

The infrastructure was enhanced in which learners were provided with tablets, the Internet networks were supported and strengthened, and electronic lessons were prepared

to qualify teachers to prepare and present e-lessons through a free workshop called (How to become a distance teacher in 24 hours). Moreover, various educational tools, platforms, and solutions are provided and offered by the Ministry of Education that aim to facilitate teaching and learning processes (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)). Some of the platforms included are Learning Management System (LMS) (Smart Learning Portal), Microsoft Teams, Madrasa electronic platform, and Alef platform.

The Ministry of Education has implemented full distance learning by the end of the second trimester of the 2019-2020 academic year in order to counter the spread of the COVID-19 Pandemic (Bawa'aneh, 2021). In the continuous blended learning process in the UAE public schools, students and teachers had access to educational plans and support material and achieved a part of their formative exams on LMS and completed final summative exams of the third term virtually on Swift Assess (Bawa'aneh, 2021). To illustrate, the learning and communication between students and teachers were not taking place in-person during the pandemic in which there is a shift of teaching mode to be from face-to-face to become completely online learning environment. It was determined that an oriented survey of distance learning verticals as perceived by educators in higher education institutions in the UAE would provide information on online delivery aspects such as teaching methods, communication media, and teaching best practices (Al-Karaki, Ababneh, Hamid, & Gawanmeh, 2021). According to the survey results, nearly all participants agreed that online learning during COVID-19 is a very good alternative to face-to-face instruction. On the other hand, teaching models do differ in fostering students' involvement and students' engagement. There is agreement among participants that inadequate infrastructure at home will weaken the process, especially in courses involving hands-on activities (Al-Karaki, Ababneh, Hamid, & Gawanmeh, 2021).

Due to the need for knowledge and experience in teaching in a full virtual learning environment, teaching online is an aspect that teachers are not used to usually provide even though they are equipped with the digital skill to teach using diverse online educational platforms, programs and applications to support the learning process. Most of teacher training prepared and conducted focused on the implementation of smart classes and distance learning platforms. According to a study that examined the effects of COVID-19 on education in the UAE, there is a lack of formal training for administrators, teachers, parents, and students regarding distance learning. Findings from the survey revealed that most participants had less than a day of formal distance learning training (Erfurth & Ridge, 2020).

In terms of supporting learners' self-regulated learning skills, UNESCO has published a Guidance on (Active Learning at Home during Educational Disruption: Promoting student's self-regulation skills in COVID-19 outbreak). In the guidance, the self-regulated was argued in terms of skills which are described as the mastering of individual's own learning processes. The process involves learners changing their mental abilities into task-relevant skills in a variety of areas, including academics, sports, music, and health (Zimmerman, 2015 as cited in Huang, et al., 2020). Furthermore, the term "self-regulation" refers to a process of managing one's own learning and behavior through self-control and self-assessment. Learning that is self-regulated emphasizes the independence and control of the individual who monitors, directs, and controls his or her actions in order to acquire, develop, and improve knowledge. The process involves a cyclic process in which the learner sets up a task, monitors his/her performance, and then evaluates and reflects on the results. The cycle then is repeated as the student utilizes the reflection to adapt and be ready for the next task. (What is Self-Regulated Learning, 2020 as cited in Huang, et al., 2020).

2.7 Previous Studies Related to Online Self-Regulated Learning

There are various studies done emphasizing the association between academic successes and the SRL in face-to-face mode of instruction settings. Recently, due to the COVID-19 pandemic, there are different studies done focusing on online SRL in the online distance learning environments.

There was a study done on utilizing the Self-Regulated Learning Opportunities Questionnaire as a diagnostic instrument for teacher educators' professional development. In the study, the SRL model was developed towards the 'Self-Regulated Learning Opportunities Questionnaire' (SRLOQ) that can be applied by primary teacher educators as a diagnostic instrument for the classroom environment. The qualitative analyses showed that by using the SRLOQ, teacher educators could differentiate and become more aware of the five SRL scales in their teaching. This tool supported them to evaluate student-teachers SRL opportunities in classroom practice. Nevertheless, effective use of the SRLOQ needs training. To be successful in the SRL implementation procedure, teacher educators are instructed to attend training programs that clarify the design principles of the SRL model based on the measured degree of SRL opportunities with the SRLOQ (Vrieling, Bastiaens, & Stijnen, 2013). In other words, for teachers to be effective in assessing their students' SRL, there is a need for professional development so that they be aware of self-regulated learning notions and be able to provide support to students' SRL when needed.

Using an individual differences approach, a study was conducted on how students adapted to emergency remote learning. A survey of 1,800 university students was conducted to determine strategies for resource management and indicators of (un)successful adaptation to emergency remote learning. Generally, students stated having a lower ability to regulate their attention, effort, and time and their motivation is lower compared to the context before the crisis began; as well as they reported spending more

time and effort in their self-study. According to the study, four adaptation profiles were identified and categorized as follows: overwhelmed, surrenderers, maintainers, and adapters. It was found that both overburdened and surrendered students were less able to regulate their effort, attention, and time, as well as being less motivated to study than before the crisis. However, it was appreciated by the adapters that they were able to learn independently and with greater self-regulation. Resource-management strategies continued to be relatively stable among the maintainers (Biwer, et al., 2021).

Regarding the role of self-regulated learning, motivation, and procrastination for perceived competence during COVID-19 in which a study focused on and aim to examine differences in learners who perceived themselves as high opposed to low in competence regarding concepts in terms of self-regulated learning (SRL), intrinsic motivation and procrastination. Over 2652 Austrian secondary school students completed an online questionnaire that included closed questions about SRL, intrinsic motivation, and procrastination, in addition to open-ended questions regarding challenges, accomplishments, and the need for remote learning support. It was found that students who perceived themselves to be highly competent used SRL strategies (goal setting and planning, time management, metacognition strategies) more frequently and were predominantly motivated by intrinsic factors. Additionally, the qualitative analysis showed that even though all students encounter similar challenges (e.g., individual learning, time and task management, learning on the computer, lack of communication with instructors and peers), students who identified themselves as highly competent appeared to manage better, and not needing much for support (Pelikan , et al., 2021).

Help-seeking is considered important in terms of self-regulatory and metacognitive skill. A study was done on supporting self-regulated help-seeking behaviors by the use of live chat in higher education through comparing online and blended learner viewpoints.

With an emphasis on comparing online and blended learners' viewpoints, the aim of the study was to investigate learners' experiences of the use of live chat technology for online academic help-seeking within higher education. The students who participated in study were studying psychology and were divided as 91 students studied online and 155 students studied in blended learning environments. The findings revealed that Live chat was mainly well received by online learners, who tend to be more satisfied, and experienced the feeling of care provided by the teaching team. Moreover, online learners stated that live chat gave them better communication with staff, and felt that this feature was a good similarity to more traditional face-to-face communication (Broadbent & Lodge, 2021). To illustrate, help-seeking as a skill in SRL is considered essential to be aware of by students, specially during distance learning setting where there is sometimes limited access or communication between teachers and students due to being exposed to new experiences of education taking place in the virtual learning setting.

There is a study on self-regulated resource management in an emergency online higher education context which aimed to examine students' online readiness for the unexpected shift to online learning; differences between learners' planned and actual usage of external resource management strategies; and the effect of students' online readiness on their real use of resource management strategies. There were 662 German university students who participated in two online questionnaires (before and during mid-term). The findings of the study revealed that students appeared to be ready to study online. Nevertheless, results indicated that students were not able to handle their resources during the term as frequently as expected. (Naujoks , et al., 2021). Even though students might be equipped with digital skills, the online learning setting gave them an opportunity to experience learning virtually in which they discover different skills that they might have acquired but not have the ability to use authentically. For example, communication

between learners and teachers when in a face-to-face setting is much easier but in distance learning some students might hesitate to ask for help or assistance from teachers as well as teachers in turn face challenges in providing full support to students while she/he cannot observe students' learning directly.

As part of a self-regulated learning perspective, there is a study that examines 94 university students' attitudes and experiences with online learning in a blended course through regard to their online learning attitudes and constant intention to complete online courses. Various factors such as self-regulated learning capabilities, online communication, attitudes, and online learning intentions were examined in order to determine how participants' attitudes toward online learning changed over time. These students participated in a survey as well as did six weekly reports to provide comments on their learning activities of the week. According to the results, participants' attitudes toward online learning were largely positive and increased as a result of completing the course. Further, participants' continuous intention to learn online was significantly influenced by four self-regulating factors and attitudes, which were mediated by perceived online social interactions. (Zhu, Zhang, Au, & Yates , 2020).

Regarding facilitating self-regulated learning in distance learning settings at higher education level, efforts through a systematic analysis of 38 studies to offer an outline of the interventions identified as supporting all areas of SRL (metacognitive, cognitive, motivational, and emotional), in its three phases (preparatory, performance, appraisal) in distance education settings at the higher education institutions (Edisherashvili, Saks, Pedaste , & Leijen, 2022). The findings showed there are SRL support interventions available with a proven positive effect on SRL. On the other hand, their distribution has been discovered to be inconsistent. Despite the fact that metacognition regulation and the performance phase of learning are closely examined, emotional regulation and the

preparatory and appraisal phases of the SRL cycle are to some extent unexplored.

Although the SRL procedure is complex and multi-layered, the blend of different interventions and specific features has been helpful in providing a more comprehensive level of support.

To evaluate primary and secondary school mathematics teachers' direct and indirect support of self-regulated learning, a video-based classroom observations were conducted (Dignath & Büttner, 2018). Even though the teachers' instructional methods could promote SRL, not much time was spent teaching specifically about SRL strategies. Furthermore, teachers taught mostly cognitive strategies and very few metacognitive strategies. These findings were more noticeable at the primary level than at the secondary level. The interviews showed that the teachers needed to learn about metacognition as an essential element of SRL; nevertheless, most of them considered cognitive and motivational elements of SRL. Therefore, teachers of different grade levels need to be aware and have adequate knowledge about elements of SRL so they can provide sufficient support and understand students' academic needs in the learning process in the online learning environment.

Chapter 3: Methodology

3.1 Overview

The methodology chapter focuses on the research design, procedures of the surveys and interview questions, defining the surveys as measures as well as ethical considerations of research and, the validity and reliability of the qualitative and quantitative methods of study.

3.2 Research Design

The study followed a mixed-methods design which comprises teachers' and students' Questionnaires and school leaders' open-ended Interview Questions.

The teachers' open- and closed-ended questions were collected simultaneously through a 41-item questionnaire including a 25-item consisting of a 5-point Likert scale of Skills during each phase of SRL (from 1= Never, 2= Rarely, 3= Sometimes, 4 = Often, 5 = Always (Huh & Reigeluth, 2018) (**Appendix 15**). The second was students' closed-ended questions were collected simultaneously through a 49-item questionnaire (Barnard, 2009; Biwer, 2021) (**Appendix 16 & Appendix 17**). The students' survey was divided into two sections which are Resource Management Strategies and Online Self-regulated Learning. The Resources Management Strategy section is a 17-item questionnaire consisting of a 5-point Likert scale from -2 (much less) to +2 (much more) (Biwer, et al., 2021). The 17 items that measure how the new context affected students' usage of resource-management strategies, are based on existing questionnaires on online self-regulated learning (Barnard et al., 2009; Jansen et al., 2017 as cited in (Biwer, et al., 2021). The adapted theoretical scales consist of "attentional regulation (four items), effort regulation (five items), motivation (three items), time management (five items), and effort and time investment (two items)" (Biwer, et al., 2021). All items encouraged learners to think about the recent learning environment context with hindsight and compare it to the situation before the shift

of learning mode from face-to-face teaching to distance learning. The second section was about Online Self-regulated Learning which is a 24-item scale with a 5-point Likert response format having values ranging from Strongly Agree (5) to Strongly Disagree (1). Moreover, it included school leaders / school principals' open- and closed-ended questions that were collected through a 15-item questionnaire (Duby, 2006) (**Appendix 18**). Data Collection Request has been filled and sent to the Educational Institution Entity for the surveys links to be approved and circulated to teachers and school leaders to invite them to participate in the study. The questionnaire was conducted using an online platform which collecting the data.

Research Questions:

Students:

- How do students use self-regulated learning strategies in their learning process before and during distance learning setting through School Academic Year (2020 – 2021)?

Teachers:

- To what extent are teachers providing support to their students to develop self-regulated learning skills during distance learning setting through School Academic Year (2020 – 2021)?

School Principals:

- How do school principals or school leaders support teachers to facilitate students' online self-regulated learning during distance setting through School Academic Year (2020 – 2021)?

3.3 Participants

The teachers who participated in the study were UAE nationals and other nationalities who are teaching various subjects in public high school students in Cycle 3 which includes grades from 9 to 12. The school leaders / school principals also participated

in the study, and they are principals of public schools. Regarding the students' participation, the participants were divided into two target groups, one group for students who are still in high school and the other target groups were first-year undergraduate students in higher education institutions. The reason for the division of the target group of students is that there was a challenge in finding students who are 18 years old and above to participate in the study. The survey included the participation message as well as emphasizing that participation is voluntary, and the data received by the participants is confidential.

3.4 Measures

3.5 Teachers Survey: Self-Regulated Learning Skill Development

The survey evaluates teachers' awareness of implementing SRL opportunities in their teaching during distance learning (Huh & Reigeluth, 2018) (**Appendix 15**). The survey instrument was developed according to the conceptual framework of Pintrich (2004). The questionnaire contained 25 items designed to measure teachers' practices associated with the development of students' self-regulated learning skills. Pintrich presented four areas for regulation, four phases of SRL, and desired SRL activities according to each area and phase in his conceptual framework as demonstrated in **Table 3.1** (Huh & Reigeluth, 2018). Pintrich (2000, 2004) introduced the concept of social context as one of the four areas for SRL which is added to cognition, motivation, and behavior aspects of the regulation (Huh & Reigeluth, 2018). This study utilized Pintrich's framework because learners can take part in a greater variety of tasks and contexts in an online learning environment because of its flexibility and independence. Context can also have a more significant relationship with other self-regulated learning elements in Pintrich's framework (Huh & Reigeluth, 2018).

According to Paris and Paris (2001), there are three approaches to support students' SRL which are : (a) indirectly through experience; (b) directly through instruction; or (c) through elicited practice either indirectly or directly. Regarding the first approach, students can build SRL by stimulating SRL skills from real-life and constant experiences. Learners can develop their knowledge and skills of SRL by observing others as teachers, classmates, or family members. Students can be explicitly instructed in the second approach on specific skills of self-regulated learning, along with a description of why those skills are important. The third approach encourages students to develop self-regulated learning by integrating it into the nature of a task where self-regulation is integrated. For instance, in collaborative learning, students need to be involved in different aspects of SRL including monitoring and changing strategies or using time and resource management when participating in group work (Huh & Reigeluth, 2018).

Table 3

A Conceptual Framework for Self-Regulated Learning Classroom

Phases	Areas for regulation			
	Cognition	Motivation/Affect	Behavior	Context
Forethought, planning, and activation	Target goal setting Prior content knowledge activation Metacognitive knowledge activation	Goal orientation adoption Efficacy judgments Perception of task difficulty Task value activation Interest activation	Time and effort planning Planning for self-observation of behavior	Perceptions of task Perceptions of context
Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help Self-observation of behavior	Monitoring changing task and context conditions
Control	Selection and adaptation of cognitive strategies for learning and thinking	Selection and adaptation of strategies for managing motivation and affect	Increase or decrease effort Persist, give up Help-seeking behavior	Change or renegotiate task Change or leave context
Reaction and reflection	Cognitive judgments	Affective reactions	Choice behavior	Evaluation of task Evaluation of context

A framework demonstrated in (Table 3) classifies the diverse phases and areas for regulation. This conceptual framework displays detail of how self-regulated learning

functions in the classroom. The four phases that make up the rows of the table are processes that many models of regulation and reflect goal-setting, monitoring, control, and regulation processes (Pintrich P. R., 2004).

Phase 1 includes planning and goal setting along with activation of perceptions and knowledge of the task and context and the self about the task. Phase 2 focuses on different monitoring processes that characterize metacognitive awareness of various aspects of the self and task or context. Phase 3 is about efforts to control and regulate various aspects of the self or task and context. Lastly, Phase 4 indicates different types of reactions and reflections on the self and the task or context (Pintrich P. R., 2004). These planning, monitoring, control, and regulation processes can be applied to all four domains listed in (Table 3). To illustrate, under this framework, there is the possibility for “regulation” scales for cognition, motivation, behavior, and context, not just one global metacognition or regulation scale (Pintrich P. R., 2004).

3.6 Students Survey: Questionnaire on Resource Management Strategies and the Online Self-Regulated Learning Questionnaire (OSLQ)

The questionnaire focuses on examining resource management strategies and to what extent students were capable to manage their resources and adapt to emergency remote learning in School Academic Year (2020 – 2021) (Biwer, et al., 2021) (**Appendix 16 & 17**). Participants responded to a 17-item questionnaire taken from the questionnaire on Resource Management Strategies (Biwer, et al., 2021). These questions focus on assessing resource management strategies and to what extent learners could manage their resources and adapt to emergency remote learning in distance learning. Some changes were made to the wording and rephrasing of the statements and items in the questionnaire. For example, the original version included the following statement "*In the current situation, I encounter ___ distractions in my study environment than before the crisis*" and

the edited version "*During COVID-19 pandemic / crises phase, I encounter ___ distraction in my study environment than before the crisis*".

Furthermore, the second section of the questionnaire emphasizes different aspects of online self-regulated learning which is about learners' awareness and implementing self-regulated learning by defining personal learning goals, monitoring their progress to those goals, and reflecting on learning to determine if applying their strategies was helpful in terms of achieving a specific goal. Online Self-regulated learning Questionnaire (OSLQ) assesses the self-regulatory learning skills of students joined in blended and online learning environments (Barnard, Lan , To, Paton, & Lai, 2009). In this study, participants responded to a 22-item questionnaire taken from the OSLQ (Barnard, Lan , To, Paton, & Lai, 2009). The OSLQ consists of six subscales: environmental structuring; task strategies, goal setting; help-seeking; time management; and self-evaluation. Two questions (questions 16 and 19) were removed from the original questionnaire that included 24 questions. One of these questions focuses on communication face to face with other classmates (*If needed, I try to meet my classmates face-to-face.*). The other question focuses on how not daily attendance on done by students in online classes (*Although we don't have to attend daily classes, I still try to distribute my studying time evenly across days.*). Based on the context of Distance Learning in UAE and due to the COVID-19 Pandemic, students were not encouraged to meet face to face during distance learning. However, they were asked to attend classes online weekly. Moreover, the last two statements of the OSLQ in the *Self-Evaluation* area about communication with classmates have been modified including (23. *I communicate with my classmates to find out how I am doing in my online classes*) and the other statement (24. *I communicate with my classmates to find out what I am learning that is different from what they are learning.*). The modification made in terms of adding (*using asynchronous technologies (discussion boards, email, etc.)*)" to both statements to become

more relevant to the students' online learning experience since they are learning through Online Live Classes (e.g., Microsoft Teams).

3.7 School Leaders Open-Ended Questionnaire: Administrator Interview Questions

The interview questions examine school principals' attitudes toward supporting teachers to facilitate students' Self-Regulated Learning in the learning process during the COVID-19 Pandemic in the distance learning environment through School Academic Year (2020 – 2021) (**Appendix 18**).

3.8 Ethical Considerations, Confidentiality and Anonymity of the Research

Regarding participation in the study and responding to the questionnaire and open-ended interview questions, there are several ethical considerations that have been taken into account. First, participating in the survey or questionnaire is voluntary and participants have been acknowledged that all their responses will be kept confidential. According to Gajjar (2013), participants are given knowledge about how their data will be utilized, what will be done with case materials, photos and audio, and video recordings, and secure their consent. For instance, in the case of the dissertation conducted, the participants were given all right to know that their responses are confidential, and the aim of the study was explained to them which is to collect responses regarding an aspect that occurs in the learning process which is SRL skills. Moreover, the confidential records were guaranteed that to be stored in a secure area with limited access (Gajjar, 2013). The second point is about giving participants the right to choose to withdraw from responding to the survey or questionnaire. The third point is regarding participants in interviews, they have the right to ask for in including their answers and any data provided while it has not been added to the transcript. Fourth is about all participants' information will be maintained confidential and anonymous. Kaiser (2009) argued that confidentiality is about a situation where the

researcher is aware of the participant's identity but carries out the required steps, so that the identity from being discovered is secured (KANG & HWANG, 2021).

3.9 Validity and Reliability

The study methodology includes a blended qualitative and quantitative approach. Methodological Triangulation or mixed-methods research uses more than one kind of method to study a phenomenon (Risjord, et al., 2001, Casey & Murphy 2009). The quantitative and qualitative data collection techniques are blended in across-method studies (Boyd , 2001, Casey & Murphy, 2009). Qualitative methods are descriptive and documented, and comprise passive observation, participant observation, and open-ended interviews. Quantitative methods include statistical analysis of results or questionnaires, gathered by standardized scales or measures and expressed statistically (Risjord, Moloney, & Dunbar, 2001). In the case of the current study, there is a focus on quantitative methods in terms of survey questions for teachers and students as participants of the study. For school leaders, the qualitative methodology was used to collect data in terms of views and opinions through open-ended interview questions.

Chapter 4: Data Analysis and Findings

4.1 Overview

The chapter includes data analysis and findings of the surveys and interview questions.

4.2 Teachers Survey Findings

Due to the target group of teachers who teach higher education / cycle 3 (Grades 9 to 12) were not specified during circulating the survey for participation by the Educational Government Entity, the number of participants (Teachers) varied between teachers who teach different grades in cycle 1, cycle 2 and cycle 3. Overall, the sample of teachers who participated in the study compromised 244 respondents from different emirates across the UAE. The total number of female teachers' participants in the study who teach the varied cycles and grade levels is (N=122 or 50.0%) and a number of male teachers' participants who teach the varied cycles and grade levels is (N=122 or 50.0%). All teachers are teaching in public schools.

The analysis of data and discussion of findings will focus on *Cycle 3 Teachers* as they are the target group of the study. The total number of male and female teachers of cycle 3 who participated in the study is (N= 128 or 52.5%). As shown in **Table 4**, the number of female teachers' participants of the study who teach cycle 3 students is (N=49 or 38.3%) and number of male teachers' participants who teach cycle 3 students is (N=79 or 61.7%). Most teachers have experience working as teachers for ten years and more (N= 94 or 73.4%) (**Appendix 3**).

Table 4*Grade Levels and Cycles*

Grade Levels and Cycles						
	Kindergarte n Teachers	Cycle 3 Teachers	Cycle 2 & Cycle 3 Teachers	Cycle 2 Teachers	Cycle 1 & Cycle 2 Teachers	Cycle 1 Teachers
No. of Female Teachers	15	49	5	21	1	31
No. of Male Teachers	-	79	17	25	-	1
Total	15	128	22	46	1	32

The primary mode of teaching was live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc) which were used by approximately 99.22% of cycle 3 teachers during the Covid-19 pandemic in the online learning environment (see **Figure 2**). Respondents in question (Q12) were asked to indicate the preferred mode of teaching for online courses during the COVID-19 pandemic in the online learning environment. 98.44% of cycle 3 teachers indicated that they prefer live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc) (see **Figure 3**). There was an open-ended question (Q13) which asked the participants about why is selected the primary mode of teaching was their preferred mode. Most participants indicated that they preferred the selected primary mode (which was chosen in Q12) due to several reasons including direct interaction and communication with students. Regarding the question that asked the participants about selecting the platforms used the most, most of them (98.44%) of respondents chose Microsoft Teams (see **Figure 4**). Regarding the methods that teachers use for live remote learning, (78.91%) of respondents indicated that they use in-class assessments or quizzes

(**Figure 5**). About the techniques teachers use outside of class, (85.94%) of participants agreed on assignments (**Figure 6**).

Figure 2

Teachers Survey Q11

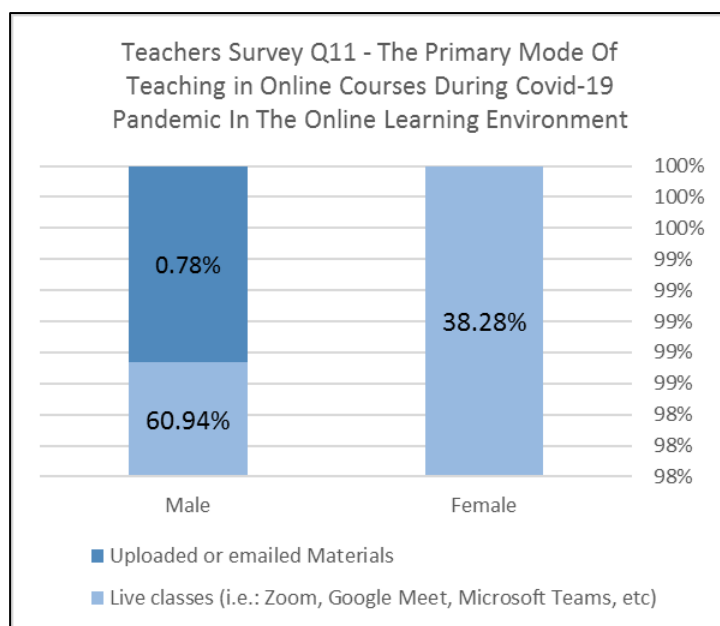


Figure 3

Teachers Survey Q12

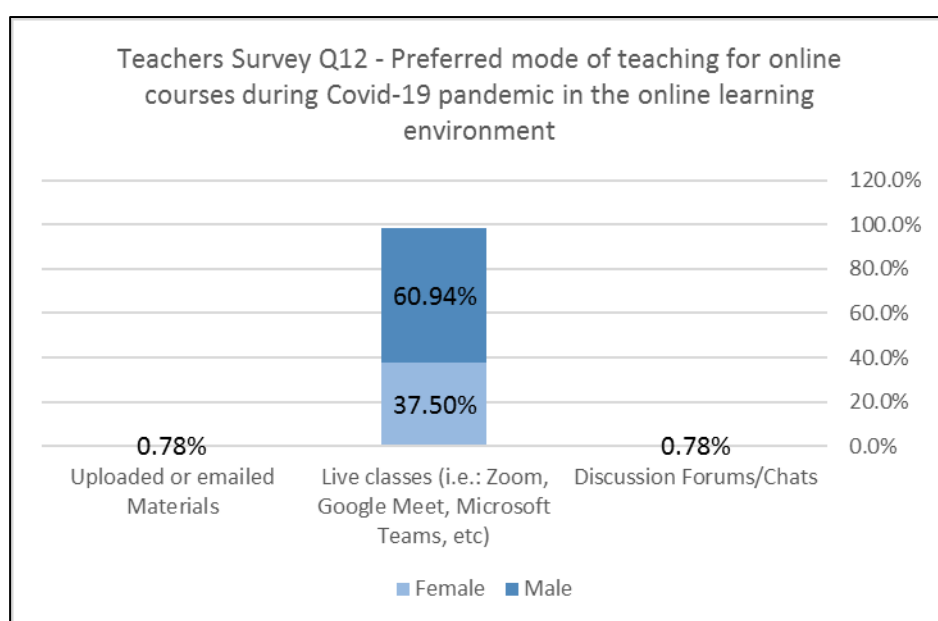


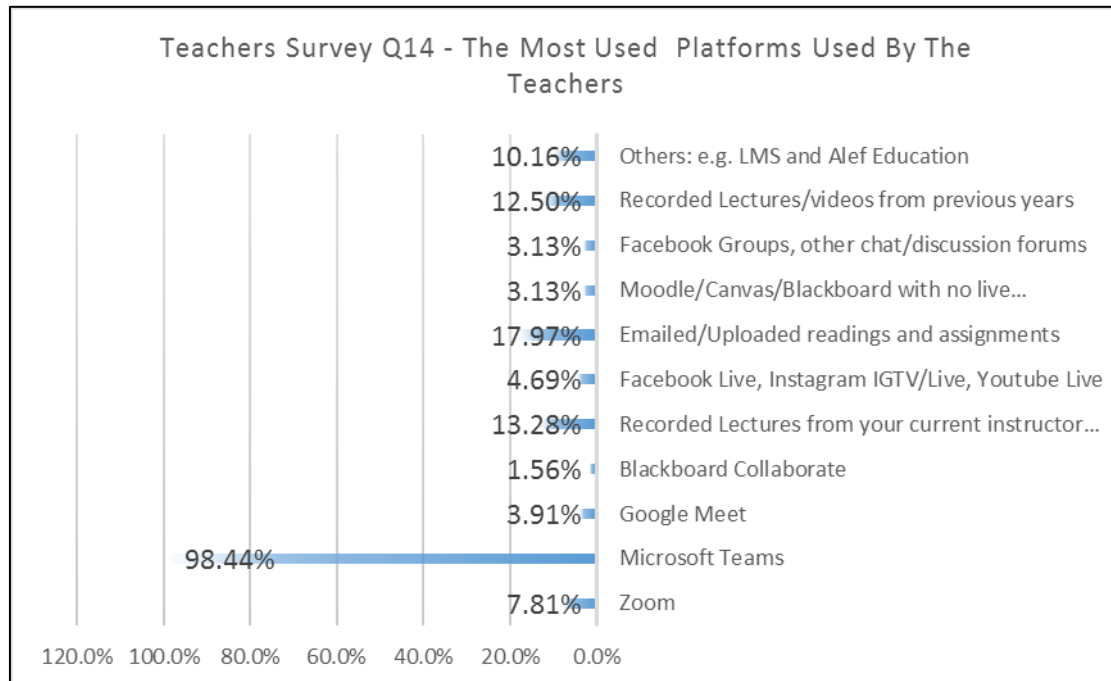
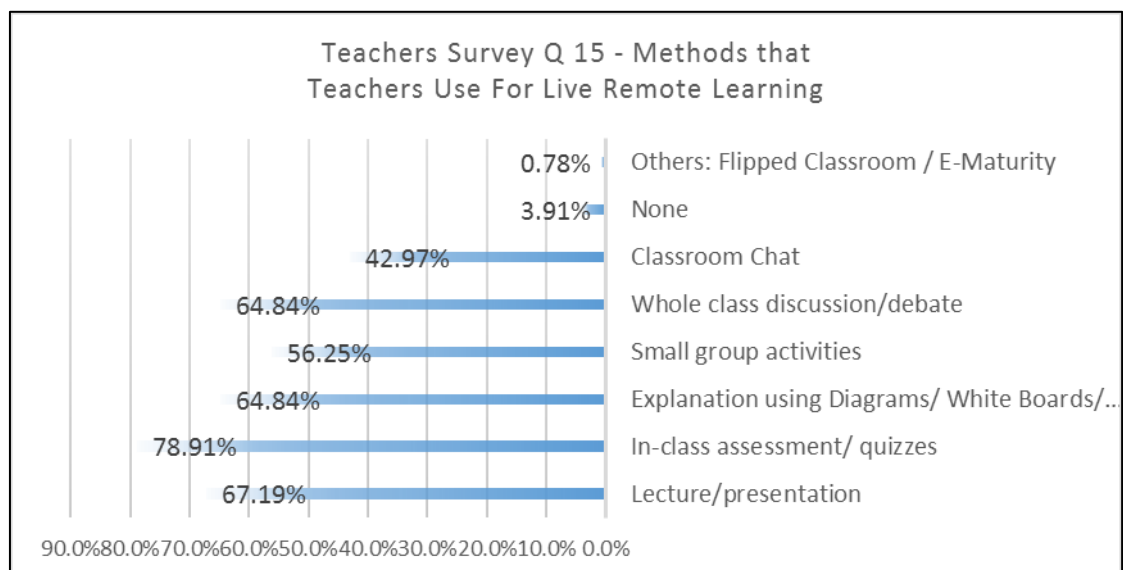
Figure 4*Teachers Survey Q14***Figure 5***Teachers Survey Q 15*

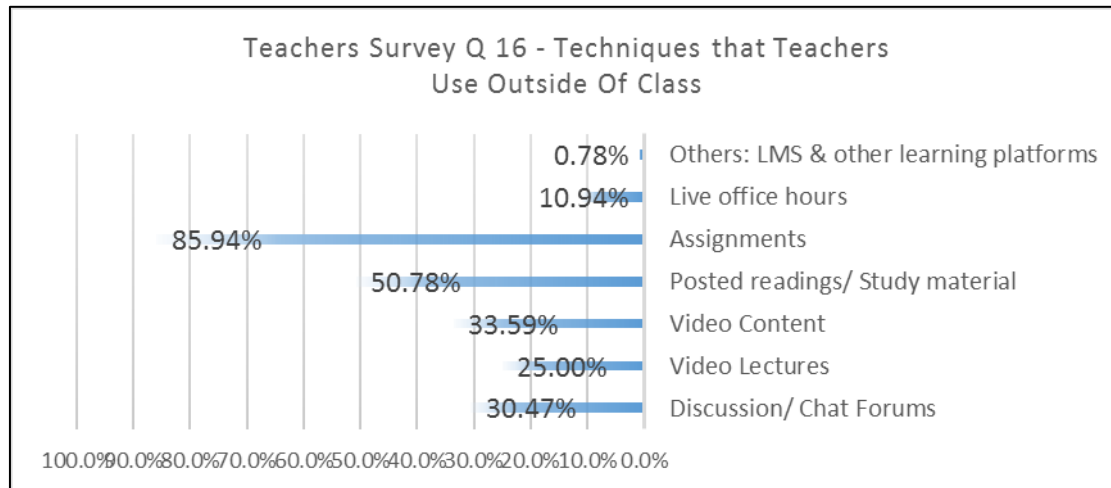
Figure 6*Teachers Survey Q 16*

Table 5 summarizes how the questions to assess SRL are grouped based on the phases and areas of self-regulation.

Table 5*Questions for Each Phase and Area of Self-Regulated Learning*

	Cognition	Motivation or Affect	Behavior	Context
Forethought, planning, and activation phase	Q17 (a), Q17 (b), Q17(c)	Q17 (b), Q17 (e), Q17 (f)	Q17 (g), Q17 (h)	Q17 (i), Q17 (j)
Monitoring phase	Q18 (a)	Q18 (b)	Q18 (c)	Q18 (d)
Control phase	Q19 (a)	Q19 (b)	Q19 (c), Q19 (d)	Q19 (e), Q19 (f)
Reaction and reflection phase	Q20 (a)	Q20 (b)	Q20 (c)	Q20 (d), Q20 (e)

The following shows the order of questions / statements as appeared in the Teachers' survey.

Phase 1: Forethought, planning, and activation

- 17(a). Students set their own subgoals for accomplishing the task
- 17(b). Students think on their own about their prior content knowledge related to the task
- 17(c). Students think on their own about their past learning experience related to the task
- 17(d). Students think on their own about the value they can get from accomplishing the task
- 17(e). Students judge on their own how confident they are for accomplishing the task
- 17(f). Students think on their own about how much they are interested in the task
- 17(g). Students plan on their own how they will use time and effort to accomplish the task
- 17(h). Students plan on their own how they will monitor their learning behavior
- 17(i). Students think on their own about how they perceive the task
- 17(j). Students think on their own about how they perceive the study environment

Phase 2: Monitoring

- 18(a). Students self-monitor how well they are learning
- 18(b). Students self-monitor how motivated they are to accomplish the task or how they feel about their learning
- 18(c). Students self-monitor their effort, time use, and need for help
- 18(d). Students self-monitor changes in the task and the study environment conditions

Phase 3: Control

- 19(a). Students use (on their own) cognitive strategies for learning
- 19(b). Students use (on their own) strategies for managing motivation or affect
- 19(c). Students decide (on their own) which things to devote more or less effort to
- 19(d). Students decide (on their own) when, why and from whom to seek help
- 19(e). Students change or renegotiate (on their own) the task when needed
- 19(f). Students change or leave (on their own) the study environment when appropriate

Phase 4: Reaction and reflection

- 20(a). Students self-reflect on how well they did in accomplishing their subgoals
- 20(b). Students self-reflect on the reasons for their emotional reactions to the outcomes
- 20(c). Students choose (on their own) if and when to do an additional task
- 20(d). Students self-evaluate how effective the task was for accomplishing their subgoals
- 20(e). Students self-evaluate how effective the study environment was

Source: (Huh & Reigeluth, 2018)

Tables 6 to 9 demonstrate the mean scores of the frequency of the teachers' practice according to each phase and area of SRL during a distance learning environment. The 25 questions were based on a 5-point Likert scale with 1 being *never* and 5 being *always*. Every question / statement represents Pintrich's Conceptual Framework of SRL and phases / areas of SRL that are shown in **Table 3 and Table 5**.

Statement 17(e) "*Students judge on their own how confident they are for accomplishing the task*" in Phase 1: Forethought, planning, and activation has given the highest mean score of 3.59 (SD= 3.20) by the participants as shown in Table 4. The statement exemplifies the *Motivation or Affect* based on (**Table 6**) in terms of the demonstration of questions for each phase and area of self-regulated learning. To illustrate, based on (**Table 3**) Pintrich's Conceptual Framework of SRL, the statement represents the aspects including goal orientation adoption, efficacy judgment, perception of task difficulty, task value activation, and interest activation. However, the lowest mean score 3.04 (SD= 2.70) is for statement 17(h) "*Students plan on their own how they will monitor their learning behavior*" as shown in (**Table 6**). The statement demonstrates *Behavior* based on Pintrich's Conceptual Framework of SRL which it includes time and effort planning and, planning for self-observation of behavior.

In Phase 2: Monitoring, statement 18(b) "*Students self-monitor how motivated they are to accomplish the task or how they feel about their learning*" reached the highest mean score of 3.55 (SD= 3.19) and it represents *Motivation or Affect*. The *Motivation or Affect* in phase 2 demonstrates aspects including awareness and monitoring of motivation and affects. However, the statement 18(a) "*Students self-monitor how well they are learning*" has the lowest mean score 3.38 (SD= 3.02) as shown in (**Table 7**). Statement 18(a) represents *Cognition* of the Pintrich's Conceptual Framework including metacognition awareness and monitoring of cognition. Teachers seem to agree on how the students can

self-monitor their motivation in accomplishing the tasks, but they believe that the students are not comfortable enough to self-monitor if they did well in their learning during distance learning.

Regarding Phase 3: Control, statement 19(d) "*Students decide (on their own) when, why and from whom to seek help*" has achieved the highest mean score of 3.57 (SD=3.20) while the statement 19(b) "*Students use (on their own) strategies for managing motivation or affect*" indicated the lowest mean score 3.04 (SD=2.66) as shown in **(Table 8)**.

Statement 19(d) represents *Behavior* under phase 3 of the Pintrich's Conceptual Framework which demonstrates the aspects including the increase or decrease effort, persist, give up and help-seeking behavior. Statement 19(b), however, represents *Motivation or Affect* and it includes aspects such as selection and adaption of strategies for managing motivation and affects. To illustrate, even though students can communicate with their teachers or their classmates online if they needed any assistance, the distance learning environment seems to affect how students need to use strategies to manage motivation.

About Phase 4: Reaction and reflection, the statements 20(a) "*Students self-reflect on how well they did in accomplishing their subgoals*" and 20(b) "*Students self-reflect on the reasons for their emotional reactions to the outcomes*" had the maximum mean score 3.32 (SD=2.95) respectively (SD= 2.98) whereas the lowest mean score 3.00 (SD= 2.68) was for the statement 20(c) "*Students choose (on their own) if and when to do an additional task*" as shown in **(Table 9)**. Statement 20(a) represents *Cognition* in phase 4 and it comprises cognitive judgments. About statement 20(b) exemplified as *Motivation or Affect* in phase 4 and it indicates an aspect such as affective reactions. Regarding statement 20(c) that has the lower mean score; however, it signifies *Behavior* in phase 4 which comprises choice behavior. During distance learning, students seem to face a challenge in

choosing when to do an additional task which demonstrates that the face-to-face learning mode facilitates student-teacher communication regarding accomplishing requested tasks. Nevertheless, teachers mostly agreed that students can self-reflect on how well they can accomplish goals and their emotional reactions to the outcomes.

Table 6

Q 17 Phase 1: Forethought, Planning, and Activation

Q 17 Phase 1: Forethought, planning, and activation (Based on distance learning environment during COVID-19 pandemic phase)	Always = 5	Often = 4	Sometimes = 3	Rarely = 2	Never = 1	total	mean	SD
17(a) Students set their own subgoals for accomplishing the task	12	30	56	25	5	128	3.15	2.78
17(b) Students think on their own about their prior content knowledge related to the task	16	40	47	23	2	128	3.35	2.97
17(c) Students think on their own about their past learning experience related to the task	17	40	43	25	3	128	3.34	2.97
17(d) <u>Students</u> think on their own about the value they can get from accomplishing the task	18	41	49	19	1	128	3.44	3.04
17(e) Students judge on their own how confident they are for accomplishing the task	25	44	42	15	2	128	3.59	3.20
17(f) Students think on their own about how much they are interested in the task	22	41	48	15	2	128	3.52	3.13
17(g) Students plan on their own how they will use time and effort to accomplish the task	23	24	52	25	4	128	3.29	2.94
17(h) Students plan on their own how they will monitor their learning behavior	13	25	54	26	10	128	3.04	2.70
17(i) Students think on their own about how they perceive the task	14	34	51	25	4	128	3.23	2.86
17(j) Students think on their own about how they perceive the study environment	19	30	51	22	6	128	3.27	2.92

Table 7

Q18 - Phase 2: Monitoring

Q18 - Phase 2: Monitoring (Based on distance learning environment during COVID-19 pandemic phase)	Always = 5	Often = 4	Sometimes = 3	Rarely = 2	Never = 1	total	mean	SD
18(a). Students self-monitor how well they are learning	20	38	47	16	7	128	3.38	3.02
18(b). <u>Students</u> self-monitor how motivated they are to accomplish the task or how they feel about their learning	26	43	38	18	3	128	3.55	3.19
18(c). Students self-monitor their effort, time use, and need for help	20	39	55	12	2	128	3.49	3.09
18(d). Students self-monitor changes in the task and the study environment conditions	20	37	50	19	2	128	3.42	3.04

Table 8*Q 19 - Phase 3: Control*

Q 19 - Phase 3: Control (Based on distance learning environment during COVID-19 pandemic phase)	Always = 5	Often = 4	Sometimes = 3	Rarely = 2	Never = 1	total	mean	SD
19(a). Students use (on their own) cognitive strategies for learning	12	33	54	22	7	128	3.16	2.80
19(b). <u>Students</u> use (on their own) strategies for managing motivation or affect	9	26	61	25	7	128	3.04	2.66
19(c). <u>Students</u> decide (on their own) which things to devote more or less effort to	18	30	50	25	5	128	3.24	2.89
19(d). Students decide (on their own) when, why and from whom to seek help	31	30	51	13	3	128	3.57	3.20
19(e). Students change or renegotiate (on their own) the task when needed	17	34	53	20	4	128	3.31	2.94
19(f). Students change or leave (on their own) the study environment when appropriate	13	28	47	35	5	128	3.07	2.72

Table 9*Q 20 Phase 4: Reaction and Reflection*

Q 20 Phase 4: Reaction and reflection (Based on distance learning environment during COVID-19 pandemic phase)	Always = 5	Often = 4	Sometimes = 3	Rarely = 2	Never = 1	total	mean	SD
20(a) Students self-reflect on how well they did in accomplishing their subgoals	13	47	41	22	5	128	3.32	2.95
20(b). Students self-reflect on the reasons for their emotional reactions to the outcomes	19	39	40	24	6	128	3.32	2.98
20(c) Students choose (on their own) if and when to do an additional task	13	26	48	30	11	128	3.00	2.68
20(d) <u>Students</u> self-evaluate how effective the task was for accomplishing their subgoals	13	26	52	32	5	128	3.08	2.72
20(e) Students self-evaluate how effective the study environment was	19	26	49	28	6	128	3.19	2.85

In *Phase 1: Forethought, planning, and activation*, the teachers were asked to choose the statements best that describe their actual practice based on the elements of self-regulated learning and how self-regulated learning operates in the classroom in considering a distance learning environment. The results indicated that 53.91% of teachers always or often believe that they 17(e) support learners in deciding on their own how confident they are to accomplish the tasks (see **Figure 7**). Nearly 29.69% of teachers always or often believe that they 17(h) provide students with some support in planning on their own how they will monitor their learning behavior. To illustrate, students in the distance learning

environment receive less support from teachers to plan independently how their learning behavior is monitored. Around 43.75% of teachers sometimes believe that they 17(a) support their students to set their own subgoals for accomplishing the task.

About the second phase which is *Monitoring*, results showed that half of the teachers (53.91%) always or often believe that they 18(b) support students to self-monitor how motivated they are to accomplish the task or how they feel about their learning. In other words, students seem to be comfortable and receive more support from teachers in self-monitoring their motivation to accomplish their tasks or how they feel about their learning (**see Figure 8**). However, 42.97% of teachers sometimes believe that they 18(c) support how their students self-monitor their effort, time use, and need for help. To illustrate, during a distance learning environment, it is important that students have the awareness to seek assistance from their teachers. Teachers need to know when to use the e-learning tools including synchronous as well as asynchronous learning modes to check and follow up on students' self-regulated learning.

In the third phase about *Control*, 47.66% of teachers always or often believe that they 19(d) support their students in deciding independently when, why, and from whom to seek help. In contrast, the least statement in which 27.34% of teachers always or often believe is item 19(b) which is about providing support to their students to use independent strategies for managing motivation or affect (**see Figure 9**).

Regarding the fourth phase in terms of *Reaction and reflection*, 46.88% of teachers always or often believe that 20(a) support their students in self-reflecting on how well they did in accomplishing their subgoals (**see Figure 10**). Results in the fourth phase seem to reveal that teachers can support their students to self-reflect on their accomplishment of the subgoals in their learning progress. On the other hand, 32.03% of teachers rarely or never believe that 20(c) support their students to be able to select independently when to do an

additional task in the distance learning environment. In other words, students seem to find it difficult for them to know when to work on an extra task while their learning takes place in a virtual setting.

Figure 7

Teachers Survey Q 17

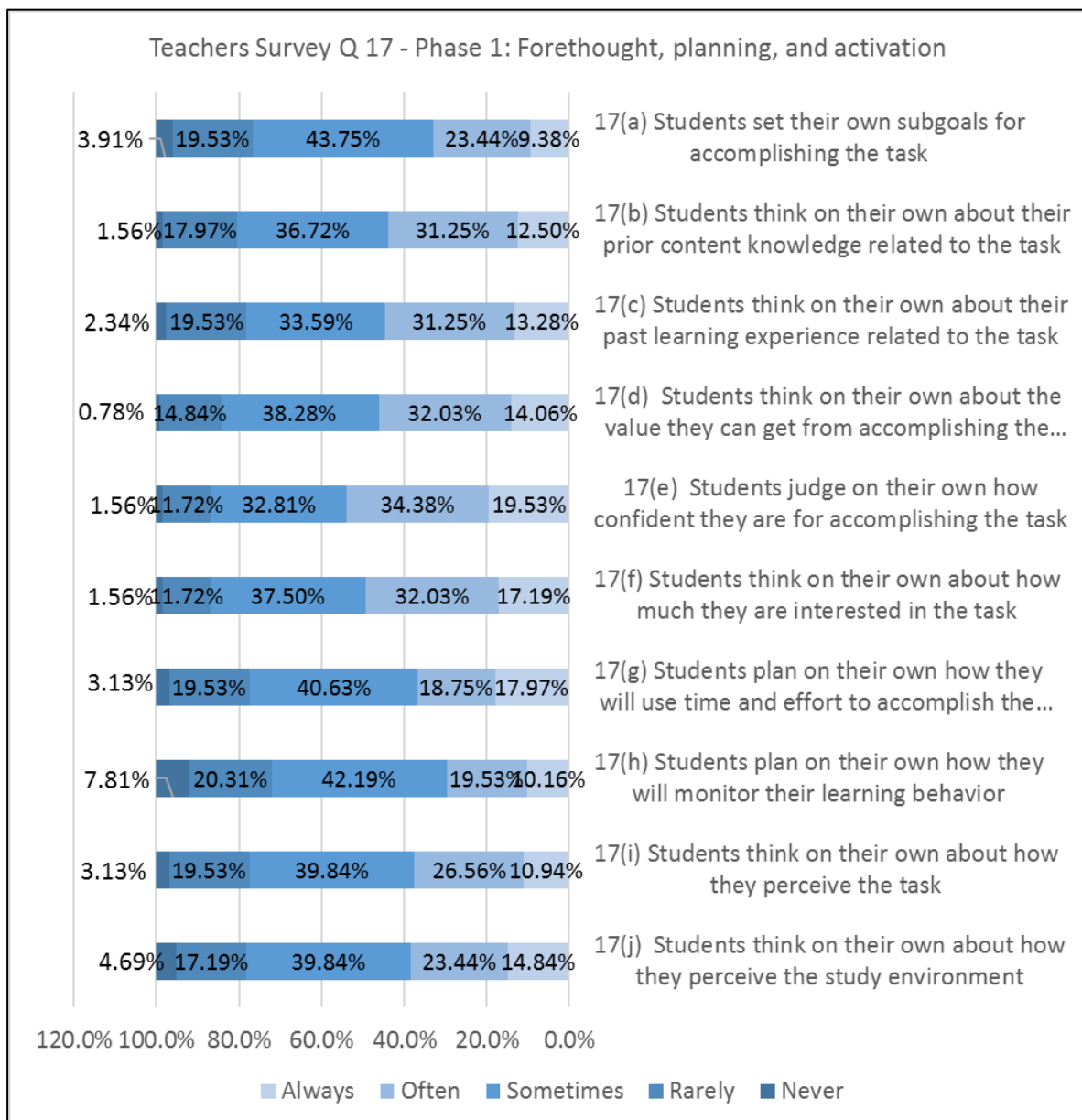


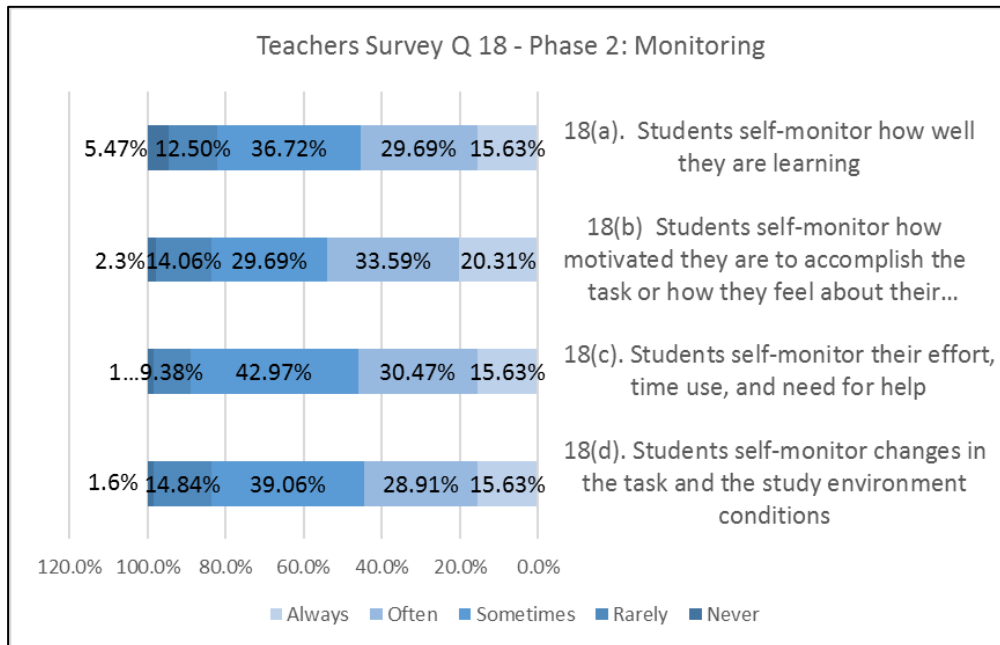
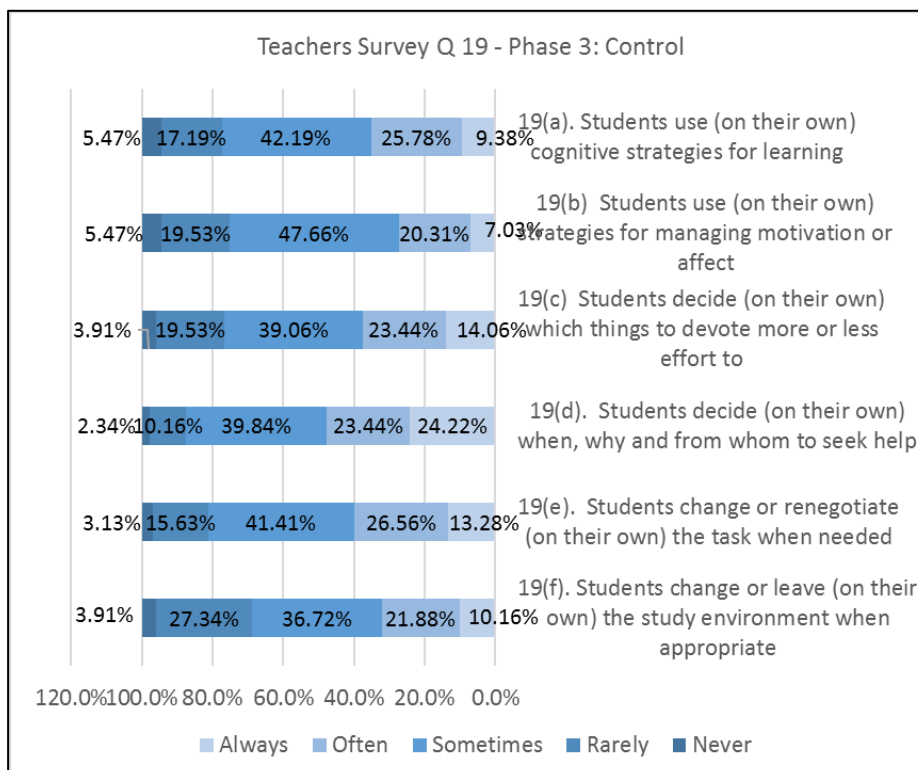
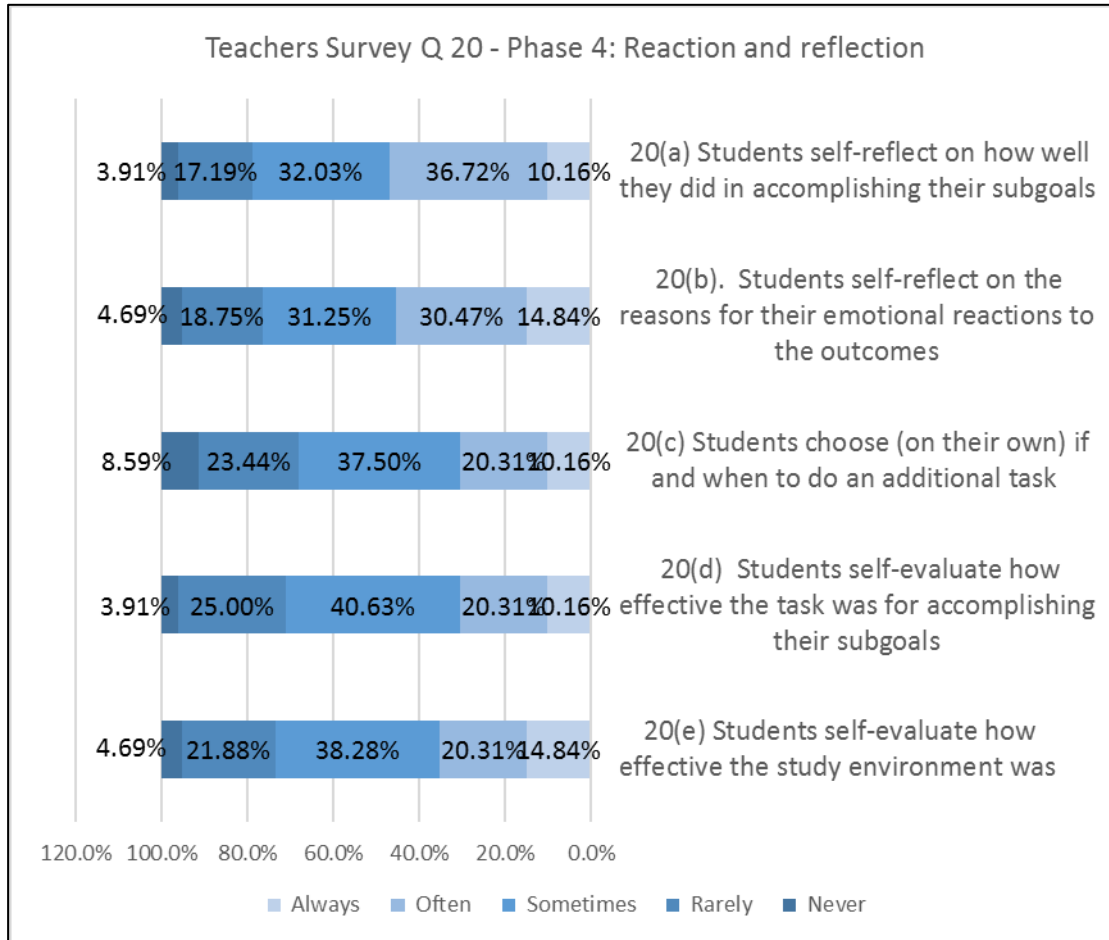
Figure 8*Teachers Survey Q 18***Figure 9***Teachers Survey Q 19*

Figure 10*Teachers Survey Q 20*

4.3 Students Survey Findings

The students' participation in the study was divided into two target groups, one group for students who are 18 years old and above in high school, and the other target group was the first year undergraduate students in a higher education institution. The reason for the division of target groups of students is due to a challenge in finding students who are 18 years old and above to participate in the study that require the consent of participation from their parents.

Overall, the sample of the students who participated in the study comprised 19 respondents from different emirates across the UAE. The total number of female students participants is (N=12 or 63.16%) and a number of male students participants is (N=7 or

36.84%). As shown in **Table 10**, the students' academic levels varied between high school and university in which the number of high school students who are above 18 years old is 9 and the number of university students is 10. The previous academic levels of students during Academic Year 2020 – 2021 were indicated that some students were in grade 11, some were in grade 12, and some of them at university level (**Table 11**). During the COVID-19 pandemic in the virtual learning environment, 89.47% of students chose Live classes (i.e.: Zoom, Google Meet, Microsoft Teams etc) as the primary mode of learning in their online courses (see **Figure 11**). 78.95% of students preferred the mode of learning for online courses during the COVID-19 pandemic in the virtual learning environment (see **Figure 12**). Moreover, students indicated that the Microsoft Teams is one of the platforms used most by 78.95% of their instructors (see **Figure 13**).

Table 10

Students' Current Academic Level

	Grade 12	Freshman	Sophomore	Senior	Not Specified (University Level)	Total
No. of Female Students	4	3	2	2	1	12
No. of Male Students	5	1			1	7
Total	9	4	2	2	2	19
Total %	47.4%	21.1%	10.5%	10.5%	10.5%	100.0%

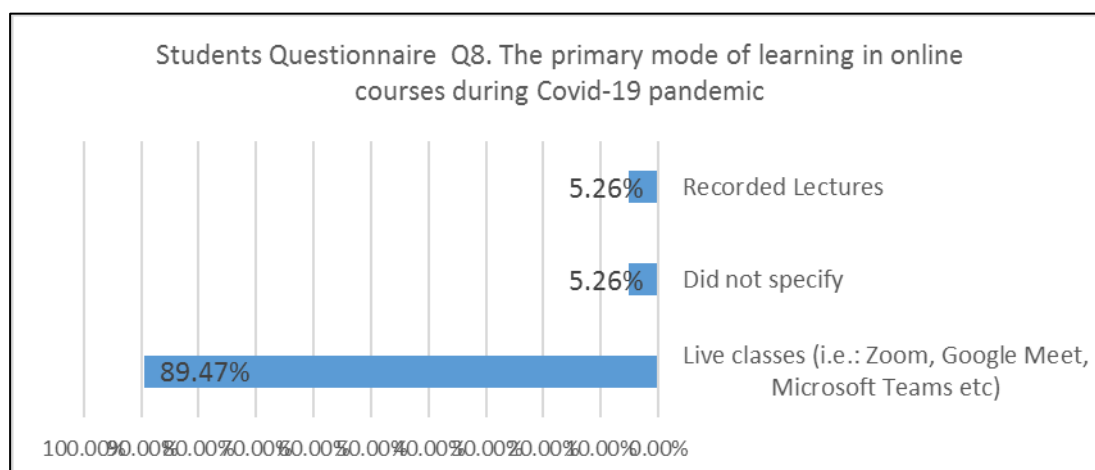
Table 11

Level that the Students Were in During Academic Year (2020 – 2021)

	Grade 11	Grade 12	Not Applicable	Total
No. of Female Students	2	4	6	12
No. of Male Students	5	1	1	7
Total	7	5	7	19

Figure 11

Students Questionnaire Q8

**Figure 12**

Students Questionnaire Q9

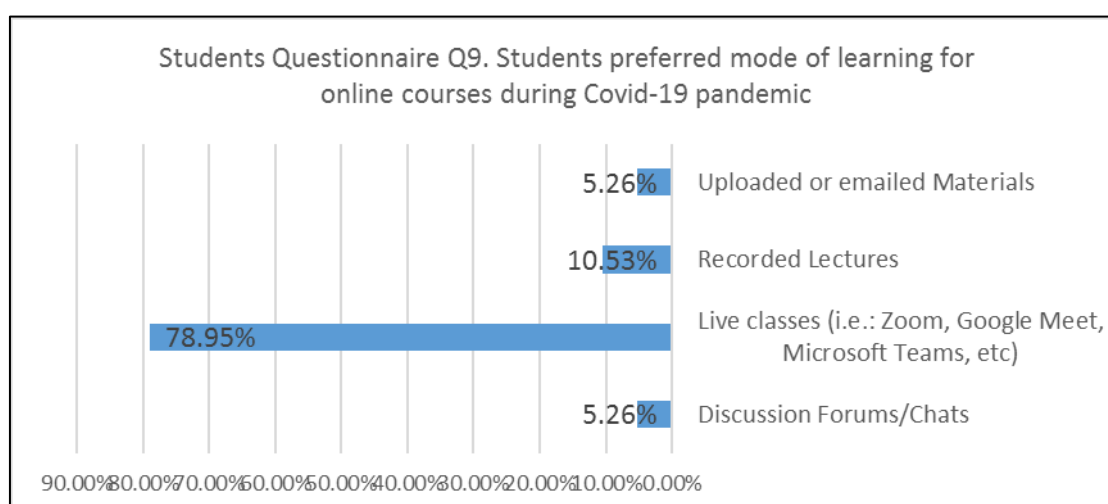
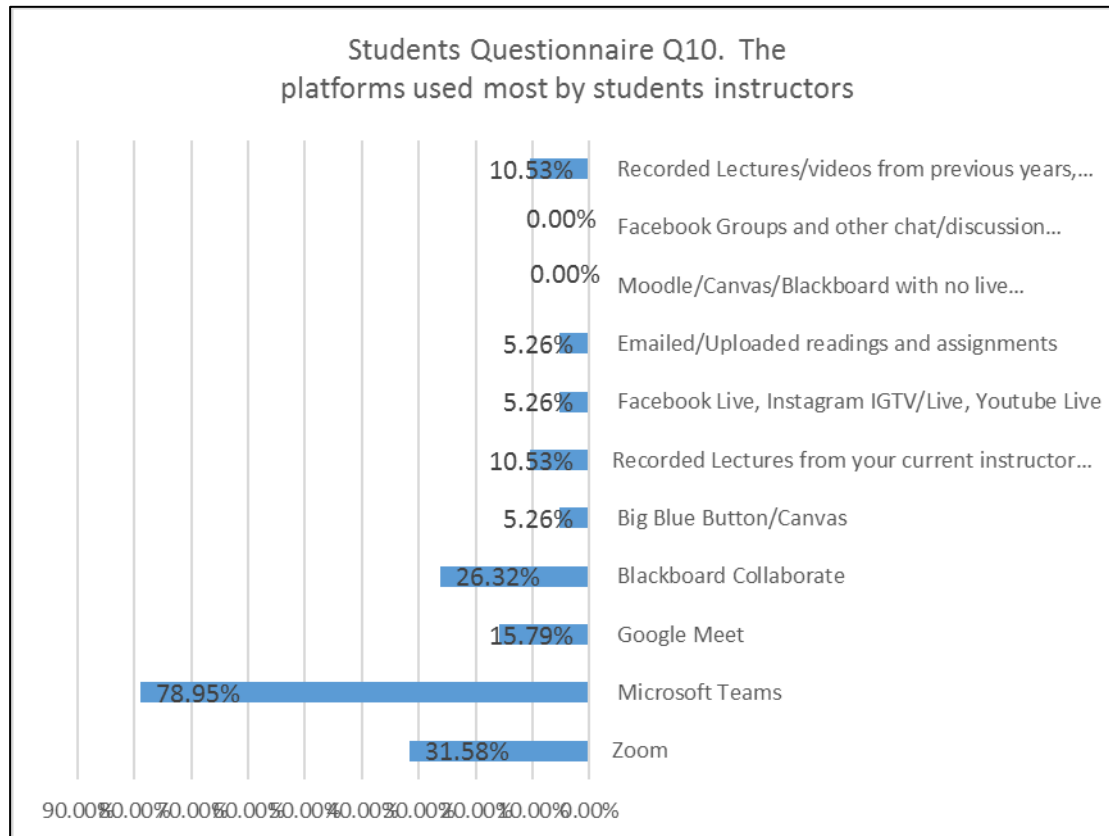


Figure 13

Students Questionnaire Q10



Students Survey Findings Section A: Resource Management Strategies

Table 12 demonstrates the mean scores of the *Changes and Adaptations of Resource Management Strategies* section of the survey which shows to what extent university / high school students self-regulate their online learning during the COVID-19 pandemic. The 17 questions / items were based on a 5-point Likert scale with -2 being *Much Less* and +2 being *Much More*. The questions / items are divided into 5 categories including attentional regulation, effort regulation, effort and time-investment, motivation, and time-management.

The findings revealed in the *Attentional Regulation* area indicate item 12 has the highest mean score 0.5 (SD= 1.3) in which is about how students' minds wander during

their self-study before the crisis and during COVID-19 pandemic / crises phase. In contrast, item 14 within the same area has the lowest mean score -0.5 (SD= 1.5) which demonstrates to what extent a student can concentrate during self-study before and during COVID-19 pandemic / crises phase.

In the *Effort Regulation* area, item 15 has the highest mean score 0.5 (SD= 1.1) which is about to what extent students feel exhausted after a self-study session before and during COVID-19 pandemic / crises phase. However, the item 16 has the lowest mean score -0.1 (SD= 1.3) which is about students' ability to manage their energy during a study day before and during Covid 19 pandemic / crises phase.

In terms of *Effort and Time-Investment*, item 19 reached the highest mean score 0.2 (SD=1.5) which is about how much students are putting time in their self-study sessions before and during COVID-19 pandemic / crises phase.

In the *Motivation* area, item 21 has the highest mean score 0.5 (SD=1.2) about experiencing motivation to keep up with the course while item 22 has the lowest mean score -0.2 (SD=1.3) in terms of experiencing motivation for preparing for exams before and during COVID-19 pandemic / crises phase.

About *Time-management* area, item 25 has the highest mean score 0.4 (SD=1.3) which is about students having an effective study routine that has helped them in the past whereas, item 23 has the lowest mean score -0.2 (SD=1.3) which is about how much students choose specific times when they study effectively before and during COVID-19 pandemic / crises phase.

Table 12

Changes and Adaptations: How University / High School Students Self-Regulate Their Online Learning During the COVID-19 Pandemic

Changes and Adaptations: How University / High School Students Self-Regulate Their Online Learning During the COVID-19 Pandemic	Much less = -2	Less = -1	To the same extent = 0	More = +1	Much more = +2	total	mean	SD
1- Attentional Regulation								
11. During COVID-19 pandemic / crises phase, I encounter ___ distractions in my study environment than before the crisis.	4	2	5	5	3	19	0.1	1.3
12. During COVID-19 pandemic / crises phase, my mind wanders ___ during my self-study than before the crisis.	1	5	4	1	8	19	0.5	1.3
13. During COVID-19 pandemic / crises phase, I get ___ distracted during self-study than before the crisis.	2	5	2	5	5	19	0.3	1.3
14. During COVID-19 pandemic / crises phase, I can concentrate ___ during self-study than before the crisis.	3	9	4	1	2	19	-0.5	1.5
2- Effort Regulation								
15. During COVID-19 pandemic / crises phase, I feel ___ exhausted after a self-study session than before the crisis.	1	3	6	3	6	19	0.5	1.8
16. During COVID-19 pandemic / crises phase, I am ___ able to manage my energy during a study day than before the crisis.	3	4	6	3	3	19	-0.1	1.6
17. During COVID-19 pandemic / crises phase, I am ___ able to relax in my free time than before the crisis.	3	3	4	4	5	19	0.3	2.1
3- Effort and Time-Investment								
18. During COVID-19 pandemic / crises phase, I put ___ effort in my self-study sessions than before the crisis.	2	7	5	2	3	19	-0.2	1.5

4- Motivation									
20. During COVID-19 pandemic / crises phase, I experience ___ motivation to prepare for tutorial meetings than before the crisis.	3	5	5	3	3	19	-0.1	1.7	
21. During COVID-19 pandemic / crises phase, I experience ___ motivation to keep up with the course program than before the crisis.	1	5	3	4	6	19	0.5	1.9	
22. During COVID-19 pandemic / crises phase, I experience ___ motivation to prepare for exams than before the crisis.	2	7	6	1	3	19	-0.2	1.5	
5- Time-management									
23. During COVID-19 pandemic / crises phase, I choose specific times when I study effectively ___ than before the crisis.	2	8	4	2	3	19	-0.2	1.3	
24. During COVID-19 pandemic / crises phase, I find it ___ hard to stick to a study schedule than before the crisis.	3	3	5	2	6	19	0.3	1.4	
25. During COVID-19 pandemic / crises phase, I have an effective study routine that has helped me in the past.	3	2	4	4	6	19	0.4	1.3	
26. I find it difficult to adapt my study routine to the situation (During COVID-19 pandemic / crises phase)	3	3	6	4	3	19	0.1	1.3	
27. During COVID-19 pandemic / crises phase, I am able to continue my study routine as before.	2	7	5	2	3	19	-0.2	1.3	

The results in the *Attentional Regulation* area of resource-management strategies revealed that during Covid 19 pandemic / crises phase 52.63% of students get much more or more distracted during self-study than before the crisis (**Item 13 Appendix 10**). That demonstrates that students need more awareness about self-study and how to be able to learn independently. In contrast, within the same domain and during COVID-

19 pandemic / crises phase, 63.16% of students can concentrate much less or less during the self-study than before the crisis (**Item 14 Appendix 10**).

The second aspect of resource-management strategies regarding *Effort Regulation*, the results show that during COVID-19 pandemic / crises phase, 47.37% of students feel much more or more exhausted after a self-study session than before the crisis (**Item 15 Appendix 11**). Additionally, during COVID-19 pandemic / crises phase, 47.37% of students are much more or more able to relax in their free time than before the crisis. Nevertheless, during Covid- 19 pandemic / crises phase, 36.84% of students were much less or less able to manage their energy during a study day than before the crisis (**Item 16 Appendix 11**).

In terms of *Effort and Time-Investment* in resource-management strategies, even though 47.37% of students put much more or more time in their self-study sessions during COVID-19 pandemic / crises phase than before the crisis, they tend to put much less or less effort in their self-study sessions during COVID-19 pandemic / crises phase than before the crisis. (**Item 18 & 19 Appendix 12**). In other words, students spend more time for self-study during virtual learning environment than face-to-face mode teaching environment.

About *Motivation* of the resource-management strategies, 52.63% of students experience much more or more motivation to keep up with the course program during COVID-19 pandemic / crises phase than before the crisis (**Item 21 Appendix 13**). In contrast, 47.37% of students experience much less or less motivation to prepare for exams during COVID-19 pandemic / crises phase than before the crisis.

In the fifth area of resource-management strategies, *Time-management* results show that, 52.63% of students have much more or more an effective study routine that has helped them in the past during COVID-19 pandemic / crises phase (**Item 25 Appendix**

14). However, 52.63% of students choose specific times when they study effectively much less or less during COVID-19 pandemic / crises phase than before the crisis (**Item 23 Appendix 14**).

Students Survey Findings Section B: Online Self-regulated Learning

Table 13 demonstrates the mean scores of the Online Self-Regulated Learning Questionnaire (OSLQ). The 22 items were based on a 5-point Likert scale with 1 being *Strongly Disagree* and 5 being *Strongly Agree*. The items are divided in 6 categories including goal setting, environment structuring, task strategies, time management, help-seeking and self-evaluation.

The results in the *Goal Setting* area revealed that the items 28(b) and 28(d) reached the significant mean scores 4.1 (SD=3.6) which are about how students are setting short-term goals as well as long-term goals and setting goals to help themselves manage studying time for their online courses (**see Table 13**). In contrast, items 28(a), 28(c) and 28(e) indicated lower mean scores 3.8 (SD=3.4) which are about students setting standards for their assignments in online courses, keeping a high standard for their learning in online courses, and not compromising the quality of their work for the reason that it is online.

In the second area of OSLQ which is *Environment Structuring*, item 29(b) demonstrated the highest mean score 3.8 (SD= 3.5) which is about being able to find a comfortable place to study (**see Table 13**). However, item 29(c) showed the lowest mean score 3.6 (SD= 3.3) which is about students knowing where they can study most effectively for online courses.

Regarding the third area in terms of *Task Strategies*, item 30(a) has the highest mean score 3.6 (SD=3.3) which is about learners attempting to take more comprehensive notes for their online courses because they believe that the notes are even more essential for learning online than in a regular classroom. In other words, students demonstrate their

awareness about the need to take notes and be able to keep the knowledge received in the virtual learning setting available whenever its needed due to a lack of face-to-face communication with their teachers / instructors. On the other hand, item 30(c) has the lowest mean score 3.3 (SD=2.9) and it is about students preparing their questions before joining in the chat room and discussion. Students tend to exhibit that they are not used to joining online discussions regularly when they used to learn in a traditional classroom environment.

Time Management is the fourth area of the OSLQ that demonstrates that item 31(b) has the high mean score 3.5 (SD= 3.2) which is about learners attempting to plan the same time every day or every week to study for their online courses, and observing their schedule.

Regarding the fifth area in terms of *Help Seeking*, items 32(a) and 32(b) which have the significant mean scores 3.9 (SD=3.5) describing the views related to finding someone who is knowledgeable in course content so that the students can consult with when they need help and sharing problems with classmates online to know what they are struggling and how to solve the problems.

The sixth and last area of OSLQ demonstrates the *Self-Evaluation* phase and items 33(c) has the highest mean score 3.9 (SD=3.6) about students' communication with their classmates using asynchronous technologies (discussion boards, email, etc.) to find out how are they doing in their virtual learning environment classes (**see Table 13**). In contrast, the lowest mean score 3.5 (SD= 3.1) was with item 33(b) about students asking themselves a lot of questions about the course material when studying for an online course.

Table 13*Online Self-Regulated Learning Questionnaire*

Table 4.10 Online Self-Regulated Learning Questionnaire								
Questionnaire	Strongly agree = 5	Agree = 4	Neutral = 3	Disagree = 2	Strongly Disagree = 1	total	mean	SD
1- Goal Setting								
28(a). I set standards for my assignments in online courses.	5	7	6	1	0	19	3.8	3.4
28(b). I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the semester).	8	5	5	1	0	19	4.1	3.6
28(c). I keep a high standard for my learning in online courses.	5	8	4	1	1	19	3.8	3.4
28(d). I set goals to help me manage studying time for my online courses.	7	7	4	1	0	19	4.1	3.6
28(e). I don't compromise the quality of my work because it is online.	7	4	5	3	0	19	3.8	3.4
2- Environment Structuring								
29(a). I choose the location where I study to avoid too much distraction.	4	10	3	1	1	19	3.8	3.4
29(b). I find a comfortable place to study.	7	4	6	2	0	19	3.8	3.5
29(c). I know where I can study most efficiently for online courses.	5	7	4	1	2	19	3.6	3.3
29(d). I choose a time with few distractions for studying for my online courses.	4	7	7	1	0	19	3.7	3.3
3- Task Strategies								
30(a). I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom.	4	7	6	1	1	19	3.6	3.3
30(b). I read aloud instructional materials posted online to fight against distractions.	3	5	8	2	1	19	3.4	3.0

30(c). I prepare my questions before joining in the chat room and discussion.	1	8	7	1	2	19	3.3	2.9
30(d). I work extra problems in my online courses in addition to the assigned ones to master the online course content.	5	5	6	0	3	19	3.5	3.2
4- Time Management								
31(a). I allocate extra studying time for my online courses because I know it is time-demanding.	3	5	7	2	2	19	3.3	3.0
31(b). I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule.	5	6	4	2	2	19	3.5	3.2
5- Help Seeking								
32(a). I find someone who is knowledgeable in course content so that I can consult with him or her when I need help.	5	9	4	0	1	19	3.9	3.5
32(b). I share my problems with my classmates online, so we know what we are struggling with and how to solve our problems.	4	10	5	0	0	19	3.9	3.5
32(c). I am persistent in getting help from the instructor through e-mail.	3	9	6	1	0	19	3.7	3.3
6- Self-Evaluation								
33(a). I summarize my learning in online courses to examine my understanding of what I have learned.	5	4	8	1	1	19	3.6	3.2
33(b). I ask myself a lot of questions about the course material when studying for an online course.	2	10	4	1	2	19	3.5	3.1
33(c). I communicate with my classmates using asynchronous technologies (discussion boards, email, etc.) to find out how I am doing in my online classes.	8	5	3	2	1	19	3.9	3.6
33(d). I communicate with my classmates using asynchronous technologies (discussion boards,	3	8	7	1	0	19	3.7	3.2

Regarding results revealed in *Goal Setting*, 73.68% of students indicated that they strongly agree or agree with item 28(d) in terms of setting goals to help them manage studying time for their online courses (**Appendix 4**). In contrast, 15.79% of students

strongly disagree or disagree with item 28(e) on not compromising the quality of their work because it is online.

Regarding the *environment structuring*, 73.68% of students strongly agree or agree with item 29(a) in which they choose the location where they study to avoid too much distraction. However, 15.79% of learners strongly disagree or disagree with item 29(c) about knowing where they can study most efficiently for online courses (**Appendix 5**).

About *Task Strategies*, results reveal that 57.89% of students strongly agree or agree about item 30(a) on trying to take more thorough notes for their online courses because notes are even more important for learning online than in a regular classroom. Furthermore, the least item in which 42.11% of students strongly agree or agree with was 30(b) which is about reading aloud instructional materials posted online to fight against distractions (**Appendix 6**).

57.89% of students indicated that they strongly agree or agree with item 31(b) of *Time Management* about trying to schedule the same time every day or every week to study for their online courses, and they observe the schedule (**Appendix 7**).

The results in *Help-Seeking* area demonstrate that more than 70% of students strongly agree or agree with items 32(a) and 32(b) which focus on finding someone knowledgeable in course content so that they can consult with when the help is needed as well as share their problems with their classmates online, so they know what they are struggling with and how to solve their problems (**Appendix 8**).

The finding in the *Self-evaluation* area shows that 68.42% of students strongly agree or agree with item 33(c) about students communicating with their peers using asynchronous technologies (discussion boards, email, etc.) to find out how they are doing in their online classes (**Appendix 9**). On the other hand, less than 50% of the respondents

indicated that they strongly agree or agree with the item 33(a) which is about summarizing their learning in online courses to examine their understanding of what they have learned.

4.4 Schools Leaders Interview / Open-Ended Questions Findings

To collect the qualitative data, open-ended interview questions have been created in a form of a link in which the target group can participate voluntarily in the study and share their thoughts on the impact of distance learning on school students' self-regulated learning. The open-ended questions were circulated as a link to school leaders or school principals of public schools. The names of the participants are assigned as numbers through the analysis to ensure ethical consideration. There were five school leaders who participated in the study and provided their thoughts on the open-ended questions on self-regulated learning in distance learning (**Table 14**).

Table 14

Grade Levels and Cycles

Grade Levels and Cycles				
	Cycles 2 & 3	Cycle 1, 2 & 3	Cycle 3	Cycle 2
No. of Female School Leaders	2	1	1	1
Work Experience	Ten years and more	One to three years	Seven years to nine years	Ten years and more

The following tables demonstrate the findings from the data collected to answer the research questions.

Table 15

Question 1: Explain What Self-Regulated Learning Means to You?

Theme	School Principal	Response
Definitions	School Principal A	"Flipped learning approach. Independent study driven by intrinsic desire to achieve."
	School Principal B	"That the students depend on themselves in learning, and the teacher can support and guide the students to achieve the learning outcomes."
	School Principal C	"Independent learning. Student driven."
	School Principal D	"Self-learning through a clear platform or strategy for the student"
	School Principal E	"Active learning. Independent learning. Self-assessment."

The school leaders generally described the SRL as an independent learning in which students are active learners, can assess their learning and the teachers can guide these learners to achieve outcomes. The school principals agreed on related and somehow similar elements of the SRL which show that they are aware of the concept including terms such as independent study, seeking support, active learning, and self-assessment.

Table 16

Question 2: How do You Perceive Your Role in Promoting Self-Regulated Learning During Distance Learning Environment?

Theme	School Principal	Response
Teaching & Learning Styles	School Principal A	"Ensure that teachers know what self-regulated learning is and how they can effectively implement it in their teaching style."
	School Principal D	"Encouraging teachers to apply self-regulated learning strategies by taking into account the Differentiated Instruction."
Resources	School Principal B	"Providing the tools, resources, and policies that support the student and enable the teacher to implement self-regulated learning."
Curriculum & Instruction	School Principal C	"Encourage to implement across the curriculum."
	School Principal E	"Instruction and guiding role"

Teaching & Learning Styles: About how school leaders perceive their roles to promote self-regulated learning in the virtual learning environment in Q2, there are three themes that emerged from the analysis including teaching and learning styles, resources, and curriculum. Two school principals stated that teachers need to consider teaching styles and differentiated instruction to enhance SRL. In other words, knowing and practicing teaching styles and differentiated instruction are key factors to encourage developing students SRL skills.

Resources: One of the school principals indicated that resources should be provided to support students' SRL. Providing tools and policies related to developing SRL skills is essential in terms of giving the teachers the knowledge and the resources to assist students to develop SRL.

Curriculum & Instruction: Other school leaders mentioned that curriculum and instruction need to be considered when promoting SRL. Different instruction that can be practiced by different subjects can affect the extent teachers can guide students and develop their SRL skills.

Table 17

Question 3: Describe ways You Ensure that Teachers are Prepared to Facilitate Students' Self-Regulated Learning During Distance Learning Environment?

Theme	School Principal	Response
Training and Professional Development	School Principal A	"Staff training. Sharing best practices across the staff. Involve students in surveys to increase the number of subjects which are introducing self - regulated learning."
	School Principal B	"Sharing knowledge of self-regulated learning - Training and empowering teachers to self-regulated learning."
	School Principal C	"Professional Development."
	School Principal E	"Familiarity with strategies. Continuous training. Self-assessment. Flipped classroom"
Practice	School Principal D	"Empowering students with self-regulated learning tools - Practicing this pattern repeatedly."
	School Principal B	"Providing resources, platforms and plans that support and spreading best practices."

Training and Professional Development: Most of school principals suggested to ensure preparing teachers to enhance learners' SRL during a distance learning environment, teachers are most likely to be advised to have professional development and training in terms of preparing them to facilitate students' SRL.

Practice: Other school leaders indicated that practice is an important factor to enhance SRL. To illustrate, the practice of facilitating students' SRL can be through the availability of the resources, learning platforms, and plans.

Table 18

Question 4: Describe ways You Encourage Teachers to Facilitate Students' Self-Regulated Learning During Distance Learning Environment?

Theme	School Principal	Response
Lesson Plans	School Principal A	"Include it as a feature on lesson plans so that it is explicit. Make it a focus of lesson observations."
Professional Learning Communities	School Principal B	"Benefiting from professional learning communities to develop teachers' performance in this aspect and to disseminate best practices and motivation."
Self-study	School Principal C	"As self-study and revision."
Training	School Principal D	"Motivation and Recognition. Training."
Teaching Loads	School Principal E	"Reducing the intensity of the curriculum. Reducing the Teaching Loads, as high Teaching Loads impede the process of creativity, innovation, and good planning."

Different suggestions have been stated regarding the ways to encourage teachers to facilitate students' SRL during distance learning setting including lesson plans, Professional Learning Communities, self-study, training, and teaching loads. School Principal (A) pointed out that enforcing learners' SRL can be done through lesson plans in which teachers can plan to include SRL as feature of their lesson observations. School Principal (B) emphasized Professional Learning Communities as a method where teachers

can benefit from to improve their skills and performance related to the SRL notions. Additionally, School Principal (E) stated that the teaching load and the intensity of the curriculum can affect how teachers can facilitate learners' SRL in which creativity and good planning process cannot be easily progressed.

Table 19

Question 5: What resources are Provided to Help Teachers Facilitate Students' Self-Regulated Learning During Distance Learning Environment?

Theme	School Principal	Response
Learning Platforms and Applications	School Principal A	"Sharing of resources and apps."
	School Principal B	"Platforms and programs that provide this learning and stimulation to students."
	School Principal C	"Learning platforms."
	School Principal D	"Training. Modern Learning Platforms."
Professional Development	School Principal E	Educational platforms. Virtual teaching aids to enrich the subject. Latest technologies and devices."
	School Principal E	"Professional development. Continuous training. Exchange of experiences. Plans."

The resources that are provided to assist teachers to facilitate learners' SRL in the virtual learning environment including learning platforms, applications, and professional development. School leaders mainly suggested that learning platforms and virtual teaching aids and the latest devices can be resources available to help teachers develop students' SRL. On the other hand, one of the school principals stated that teachers need to be provided with professional development and continuous training, sharing knowledge to help them facilitate SRL.

Table 20

Question 6: Have Teachers Indicated any Obstacles in their Attempts to Foster Self-Regulated Learning? If so, what are They?

Theme	School Principal	Response
No Obstacles	School Principal A	"No"
	School Principal C	"No"
Individual Differences	School Principal B	"It is difficult to follow each student individually, due to the different levels of students and the individual differences between them."
	School Principal D	"Low level students"
Teaching Loads	School Principal E	"High Teaching Loads. Intensity of the Curriculum. High classroom density."

According to school principals, there are several aspects that can obstruct the efforts of teachers to promote students' SRL such as, implementing differentiation and having a teaching load. That demonstrates that teachers need to be provided with professional development in teaching skills in terms of balancing between practicing differentiation and how to guide students to be aware of their self-regulated learning skills.

Table 21

Question7: Describe the Distance Learning Environment in Your School and How it Aids Online Self-Regulated Learning?

Theme	School Principal	Response
Hybrid Approach	School Principal A	"Currently, we are on a return to physical face to face teaching.
		However, students who are affected by COVID-19, are learning online through a hybrid approach. Teachers encourage students to be active learners and to complete self-assessments and set targets."

Learning Platforms	School Principal B	"A virtual and sometimes a hybrid school environment, students depend independently on following up and completing the tasks required of them in or outside the classroom."
	School Principal C	"Learning platforms and office hours with staff."
	School Principal D	"It is activated by 70% when using the (Alef Education) platform"
		"Organizing the study schedule and allocating lessons for self-
	School Principal E	learning. Allocating educational platforms and lessons for self-learning."

There are two main aspects of distance learning setting the school leaders' schools in which they reinforce online self-regulated learning including hybrid learning approach and learning platforms. School Principal A stated that "Teachers encourage students to be active learners and to complete self-assessments and set targets" which demonstrates that teachers are aware of their students' self-learning skills. Moreover, School Principal B indicated that in a hybrid learning environment, students depend on following up and completing the required tasks in or outside the classroom.

Table 22

Question 8: Are there Ideas or Plans not Yet Realized That You Think Would Help Self-Regulated Learning During Distance Learning Environment? How Are These Being Pursued?

Theme	School Principal	Response
Motivating and Supporting Students	School Principal A	"Educating parents so that they can support the students."
	School Principal B	"Increase students' motivation and take responsibility for their learning."
	School Principal C	"No"
No Plans	School Principal D	"No"
	School Principal E	"No"

Two of school principals have demonstrated regarding plans they thought about would help self-regulated learning during a distance learning which focuses on providing awareness to parents regarding supporting their children as well as increasing students' motivation in their learning progress.

Chapter 5: Discussion

5.1 Overview

This chapter analyzes and discusses the quantitative and qualitative methods findings from two surveys and interview questions. The first section discusses the quantitative findings from the online survey with teachers and students. The second section reports an analysis of the qualitative findings of the interview questions.

5.2 Teachers Survey

The general background of distance learning context findings shows that about 99.22% of cycle 3 participants use live classes (i.e. Zoom, Google Meet, Microsoft Teams, etc) as the primary mode of teaching during the COVID-19 pandemic in the online learning environment. Furthermore, 98.44% of respondents selected Microsoft Teams concerning the question that asked about selecting the platforms used the most. 78.91% of respondents indicated that they use in-class assessments or quizzes as the methods that they use for live remote learning. Moreover, 85.94% of participants agreed on assignments as the techniques they use outside of class. According to Al-Karaki, et al., (2021), in UAE, the synchronous approach of classes was performed mostly using Blackboard Collaborate Ultra (part of Blackboard LMS), while some others used Microsoft Teams when necessary for all online activities. Between the diversity of digital methods of online learning, nearly all the educators were using collaboration platforms that enhance live-video communication (e.g., Microsoft Teams, Zoom, Skype, Hangouts Meet) (Al-Karaki, Ababneh, Hamid, & Gawanmeh, 2021).

The following is the discussion of findings based on the four phases of the Pintrich's Conceptual Framework of Self-Regulated Learning. The teachers were asked to select statements / items that illustrate their authentic practice according to the elements of

self-regulated learning and how self-regulated learning operates in a distance learning environment.

Phase 1: Forethought, planning, and activation

Findings regarding *forethought, planning and activations* indicate that more than 50% of teachers believe that they support learners in deciding on their own how confident they are to accomplish the tasks. In other words, nearly half of the participants have an awareness about supporting their students in determining on their own how confident they are to achieve their tasks. However, nearly less than 30% of teachers believe that they support students in planning on their own how they will monitor their learning behavior. According to Boekaerts, et al., (1999), an individual effort to monitor and control the setting is an essential aspect of self-regulated learning, for the reason that the self or person tries to enthusiastically monitor and regulate the context. Teachers need to develop their knowledge about how to support students' SRL in the online learning environment to be able to monitor their learning progress independently.

Phase 2: Monitoring

In the monitoring phase, results showed that nearly half of teachers always or often believe that they support students to self-monitor how motivated they are to accomplish the task or how they feel about their learning. Nevertheless, less than 50% of teachers sometimes believe that they support how their students self-monitor their effort, time use, and need for help. There is a lack of support in terms of self-monitoring the effort, the use of time, and the need of help. For example, in the distance learning environment, it is important that teachers be aware of their student when seeking assistance from them. Academic help-seeking is an active way for adaptive learning, which is viewed as a solution approach for learners to regulate their social environment to solve academic problems. Academic help-seeking is different from other learning strategies, primarily

reflected in the process including engagement and social interaction (Shi, Li, & Hong, 2021). Thus, teachers need to know when to use the e-learning tools including synchronous as well as asynchronous learning modes to check and follow up on students' self-regulated learning. Monitoring can be achieved in various ways. Dashboards through an LMS have been utilized by some teachers (Rice & Carter, Jr, 2016). These dashboards offer information about times in which learners are accessing and achieving tasks. Online teachers looked for patterns. *Were learners accomplishing tasks late at night? Only on the weekends? Only after class meetings?* This information was helpful for supporting the pace (Carter, Jr, Rice, Yang, & Jackson, 2020).

Phase 3: Control

In the control phase, findings show that nearly less than 50% of teachers believe that they support their students in deciding independently *when*, *why* and from *whom* to seek help. It is essential that teachers be aware of not only supporting the students in deciding independently *when* they need assistance but also to consider *why* and from *whom* they can ask for assistance. Academic help-seeking behavior involves needing support from peers, teachers, and other forms of sources to assist the students attain good outcomes in an academic context (TALANDRON-FELIPE, AYUNAR, & BONIFACIO, 2021). In contrast, 27.34% of teachers always or often have believe about supporting their students to use independently strategies for managing motivation or affect.

Phase 4: Reaction and reflection

In the reaction and reflection, findings show that generally, 46.88% of teachers believe that they support their students in self-reflecting on how well they did in accomplishing their subgoals. The process of reaction and reflection is about how learners judge and evaluate their performance on the task (Boekaerts, Zeidner, & Pintrich, 1999). As Zimmerman (1998) indicated, good self-regulators evaluate their performance in

contrast to learners who avoid self-evaluations or have no knowledge of the importance of self-evaluation in connection to the goals set for the task (Boekaerts, Zeidner, & Pintrich, 1999). On the contrary, 32.03% of teachers rarely or never believe that they support their students to be able to select individually when to do an additional task in the distance learning setting. In other words, students find it difficult for them to know when to work on an extra task or activities when their learning takes place in a virtual setting due to the nature of online communication between them and their teachers which could indicate that the reason is there are two types of help-seeking including adaptive and nonadaptive help seeking (Newman R. S., 2008). The adaptive help seeking students focus on classifying problems confronted in learning, the type of support needed for problem solutions, and the existing sources of help (Fletcher, 2018). However, nonadaptive help seeking appears when learners ask for help when it is not needed or avoid asking for assistance when it is needed (Newman R. S., 2008). As a result, nonadaptive help seekers may seem disengaged, such as being passive or declining to engage in undertaking the challenges confronted in learning (Yang, Mak, & Yuan, 2021).

Overall, there is a need for teachers to develop their SRL skills in order to be able to understand what challenges students may face during an online learning environment. Educators and researchers believe that teachers' capability to inspire learners who are self-regulated during learning is linked to teachers' own self-regulation. To illustrate, it will be difficult for teachers to develop SRL capabilities among their students if they are unable to self-regulating their own learning (Kramarski & Michalsky, Investigating Preservice Teachers' Professional Growth in Self-Regulated Learning Environments, 2009).

5.3 Students Survey

The general background of distance learning context findings shows that about 89.47% of students selected Live classes (i.e.: Zoom, Google Meet, Microsoft Teams etc.)

as the primary mode of learning in their online courses during the COVID-19 pandemic. Moreover, 78.95% of students preferred mode of learning for online courses during COVID-19 pandemic. Furthermore, students specified that Microsoft Teams is one of platforms used most by 78.95% of their instructors / teachers.

The following is the discussion of findings based on the two sections of the students' survey questions including Resource Management Strategies and Online Self-regulated Learning.

Students Survey Findings Discussion Section A: Resource Management Strategies

The findings show that during the COVID-19 pandemic phase, nearly half of students get more distracted during self-study than before the pandemic. Furthermore, more than half of students can focus less during self-study than before the pandemic. To illustrate, in an asynchronous learning context, learning at home or distance learning requires more self-study skills to have the ability to perform on the track, along with sufficient motivation and determination to achieve learning objectives (Hartnett, 2015). Due to not having access to their usual study environment including the library, finding a quiet study space might be difficult for students, which possibly affects their attentional regulation (Dabbish, Mark, & González, , 2011). Results show that most students feel more fatigued after a self-study session during the COVID-19 pandemic phase than before the pandemic. On the other hand, majority of students are more able to feel comfortable in their free time than before the pandemic. Even though most students feel more exhausted after self-study during the COVID-19 pandemic phase than before the pandemic, they tend to have more ability to relax in their free times during the COVID-19 pandemic phase than before the pandemic. Although most students put more time in their self-study sessions during the COVID-19 pandemic phase than before the pandemic, they tend to put less effort in their self-study sessions during COVID-19 pandemic phase than

before the pandemic. Adapting to higher levels of autonomy and successfully applying these resource-management strategies are, however, not an easy achievement for many students. Half of the students experience more motivation to keep up with the course program during the COVID-19 pandemic phase than before the crisis. In contrast, about half of students comprehend less motivation to plan for assessments during the COVID-19 pandemic phase than before the pandemic. During the COVID-19 pandemic phase, students have more effective study routine that has assisted them in the past. However, they select specific times when they study effectively less than before the pandemic.

The aforementioned findings can be linked to the latest systematic review which indicated that students who select to be involved in online education have difficulty to apply strategies effectively; they experience self-regulation, motivational control, support seeking, and their technological skills as major challenges (Rasheed, Kamsin, & Abdullah, 2020). Additionally, in comparison with normal online education, the shift to emergency distance learning during the COVID-19 was not voluntary, which may have had a negative impact on students' study motivation (Hsu, Wang, & Levesque-Bristol, 2019). Moreover, based on the context of the unexpected shift to online education, students may not have had access to all technical resources (e.g., constant internet connection) or help from teachers and peers. Based on the context, it is essential to develop an insight on whether and how students were capable to modify their resource-management strategies when faced with emergency distance learning (Biwer, et al., 2021). Based on the individual differences in self-regulated learning, students might react variously in the context of emergency distance learning. For example, concentrating might be difficult for some students, while others might raise their efforts to manage the new learning environment (Usher & Schunk, 2018).

Students Survey Findings Discussion Section B: Online Self-regulated Learning

Findings show that most students indicated that they set objectives to assist them manage studying time for their online courses. Zimmerman (1989, 329) describes SRL as the extent to which students are active in terms of meta-cognitive, motivation, and behavior in their individual learning. Metacognitive processes represent planning, goal establishing, organizing, monitoring, and evaluating specific progress during the performance of a task (Geduld, 2016). Moreover, most students choose the location where they study to avoid too much disturbance. About half of students try to take more detailed notes for their online courses because they believe that notes are even more essential for learning online than in a normal classroom learning setting. This demonstrates that as one of the important elements of SRL, motivation involves self-motivation, perceptions of self-efficacy, personal attributes, and intrinsic task interest (Geduld, 2016). Nearly half of the students indicated that try to schedule the same time every day or every week to study for their online courses. Time management includes scheduling, planning, and managing one's study time. Study environment management is identified as establishing a setting where learners can enhance their learning for academic success (Adam, et al., 2017 & Pintrich, et al., 1991). Furthermore, more than 70% of students show that they are focusing on finding someone who is experienced in course content so that they can refer to when assistance is needed as well as share their complications with their classmates online, so they know what they are struggling with and how to resolve their problems. More than 50% of students indicated that they are communicating with their peers using asynchronous technologies (discussion boards, email, etc.) to find out how they are doing in their online classes. Bandura's social learning theory (1977, 1986) has clarified the importance of peer interactions and support in learning which comprises attraction of a role model to the individual, and positive influence of more knowledgeable peers on individuals' learning.

As one of self-regulated learning elements, behavior involves strategies, determination, and choice when seeking knowledge and assistance, and creating a positive learning environment for optimal study (Geduld, 2016). On the other hand, less than 50% of the students indicated that they summarize their learning in online courses to examine their understanding of what they have learned.

5.4 School Leaders Open-Ended Interview Questions

The findings of the open-ended interview questions are divided into various topics. The following are the results of interview questions as demonstrated based on topics addressed by the participants which are related to enhancing or supporting teachers to facilitate self-regulated learning skills for their students during online distance learning context.

Describing Self-Regulated Learning

Regarding explaining or describing self-regulated learning, the participants mostly stated that SRL is an independent learning in which learners are active and can assess their learning and the teachers can support the learners to achieve their outcomes. This indicates that there is awareness of ideas related to self-regulated learning and some of the elements mentioned by the participants match the description of self-regulated learning skills.

According to Schunk & Zimmerman (2011), SRL is defined as an active process in which students individually initiate and maintain cognitions, affects, and behaviors that are thoroughly focused on the achievement of objectives.

Learning Styles, Resources, and Instruction

Regarding perceiving their role as to support self-regulated learning in the online distance learning setting, the participants agreed on different topics including learning styles, resources, and instruction. In terms of teaching and learning styles, results show that school principals believe that teachers need to take into consideration teaching styles and

differentiated instruction to improve SRL. From a theoretical perspective, one of the phases of *Pintrich's Conceptual Framework of Self-Regulated Learning* is help-seeking which is when students can get support from teachers or peers. Help-seeking is itemized as a behavioral strategy because it involves the individual's own behavior, as well as it includes circumstantial control because it essentially involves the obtaining of help from others in the environment and as such is a social interaction (Ryan & Pintrich, 1997).

About learning resources, findings revealed that resources should be provided to support students' SRL. For instance, providing tools and policies related to developing SRL skills is important in terms of giving the teachers the knowledge and the resources to assist students to develop SRL. Barriers were investigated about how teachers confronted challenges when using e-learning (Hadijah & Shalawati, 2017). To illustrate, a main challenge that teachers experienced was a lack of time for a lesson to be prepared utilizing technology. Additional major limitations were a lack of sufficient professional development involving technology, limited physical resources, lack of resources, inadequate access to technology, limited technical support, competency, and confidence (Mailizar , Almanthari , Maulina , & Bruce , 2020).

The third aspect that was addressed by the participants is curriculum and instruction in which there is a need to be considered when encouraging SRL. Different instructions that can be applied by various subjects can affect how teachers can manage supporting students to develop their SRL skills. Teachers need to be able to provide instruction effectively in asynchronous and synchronous learning environments. Using asynchronous distance learning solutions enhances interactions between students and teachers who are separated by distance and pace. As a result of streaming media, email, discussion boards, and social media, the teacher-student interaction is facilitated more easily, and students are able to reach higher levels of critical thinking, as they have more time to reflect, interact

with the subject, and process the information (Hrastinski, 2008; Robert & Dennis, 2005). Distance learning solutions that are synchronized with face-to-face education provide real-time teacher-student interaction. Video/audio conferencing, immediate messaging, real-time collaboration applications are used to facilitate synchronous communication online, while live interaction with the teacher and immediate feedback support traditional pedagogy and diverse advanced approaches for effective teaching and learning (Gillies , 2008; Lawson, et al., 2010). Being aware of delivering instruction through asynchronous and synchronous learning contexts is an essential key that contributes to supporting students' SRL skills.

Training and Professional Development

Regarding ensuring the teachers' readiness to facilitate learners' self-regulated learning during the distance learning environments, findings revealed that school leaders suggest teachers need to be provided with training and professional development to enhance learners' SRL during an online distance learning environment. Moreover, supporting practices of SRL through the availability of resources, learning platforms, and plans. According to Kramarski & Revach (2009), educators and researchers believe that the capability to have students who are self-regulated during learning depends on the teacher's own self-regulation in two ways. First, teachers must be able to attain SRL for themselves. Second, teachers must be able to be aware of *how* to support their students to achieve self-regulated learning. SRL can be developed through teachers' involvement in programs that offer opportunities to achieve SRL for themselves and for their students (Kramarski, 2008; Kramarski & Michalsky, 2009; Perry et al., 2006; Randi & Corno, 2000 as cited in Kramarski & Revach, 2009). As a result, it is important that teachers be aware and be knowledgeable about the self-regulated learning skills.

Facilitating Learners' SRL During Distance Learning Context and Obstacles in Fostering SRL

Results related to how school leaders can encourage teachers to facilitate learners' SRL during distance learning contexts include lesson plans, Professional Learning Communities, self-study, and teaching loads. In terms of lesson plans, it was suggested that teachers can plan to include SRL as a feature of their lesson observations. Professional Learning Communities is a method where teachers can obtain knowledge to improve their skills and performance related to the SRL concepts. On the other hand, as an obstacle to foster SRL in a distance learning environment, teaching load and the intensity of the curriculum were stated to affect how learners can develop SRL in which creativity and good planning process cannot be efficiently managed by the teachers. During the online distance learning, teachers faced different challenges in the teaching and learning process. According to Francom, et al., (2021), a survey research study aims to determine technology resources and strategies K-12 teachers have used in this transition to distance learning during the COVID-19 Epidemic. The study analyzes the obstacles teachers faced, as well as the support they wish they had during the transition. Results of research reveal that a wide range of websites and applications were used to sustain the teaching and learning process, the majority of which were familiar to teachers. In the transition process, teachers were faced with various challenges such as struggle in engaging students and parents, a lack of school procedures or guidelines, and student Internet access issues. Engaging students in the learning process through an online distance learning setting is part of being aware of self-regulated learning skills and it is essential to be learned to maintain motivation. In one of the studies that focus on study online delivery aspects such as teaching models, communication media, and teaching best practices in distance learning, an oriented survey was done that illustrates all aspects of distance learning. Finding related

to teaching models do differ in fostering students' involvement and students' engagement (Al-Karaki, Ababneh, Hamid, & Gawanmeh, 2021).

Resources Used by Teachers to Facilitate Students' SRL During Distance Learning Environment

School leaders reported that resources that are provided to assist teachers to facilitate learners' SRL in the distance learning context include learning platforms, and applications. School leaders mostly indicated that learning platforms and virtual teaching aids and latest devices can be helpful for teachers to develop students' SRL skills. Additionally, one of the school principals indicated that teachers need to have professional development and continuous training, and knowledge sharing to support them facilitate SRL. According to Bawa'aneh (2021), everybody was involved in learning how to utilize Zoom and MS Teams, and instructors were participating in learning new practices to completely shift to online teaching. Both teachers and instructors had to shift to full online quizzes, assignments, and final assessments, and schools' administration and staff were determined to discover the best methods to cope with all that remotely. That increased a heavy load on everybody, especially on students and parents (Bachem, Tsur, Levin, Abu-Raiya , & Maercker, 2020). In terms of defining the distance learning context schools according to school leaders' views, findings show that learning contexts promote online self-regulated learning through hybrid learning approaches and learning platforms. About the Hybrid Education Model, there are three aspects including school education, direct virtual learning, and virtual self-learning. School Education is based on traditional teaching methods, direct interaction takes place between the teacher and students during the classroom session. Direct Virtual Learning is when learning is done remotely, and it is required to have a subject teacher during the class and the existence of specific times for direct lessons. Furthermore, Virtual Self-Learning is when learning is done remotely and

the teacher is not required during the self-learning lessons and the timing is more adaptable to students when they are available and can access the self-learning lessons (Ministry of Education , Six years of achievement preparing for the fiftieth (2015-2020)).

Chapter 6: Conclusion

6.1 Conclusion

Self-regulated learning is one of the essential aspects for education and the process of teaching and learning to be sustained and preserved through the emergency distance learning setting. Teachers, students, and school leaders have integrated roles in facilitating SRL in the learning environment. To enable self-regulated learning strategies related to building meaning about the course content, there are three essential principles to be followed in a study aimed at improving online teaching and learning (Kanuka, 2002).

Strategy 1 concerned activities provided where learners could figure out the information to be presented, which associates with Zimmerman's forethought/ phase of SRL. Strategy 2 included activities that are provided where learners could create associations from the information presented, which related to the performance control phase. Strategy 3 included providing activities where learners could participate in reflecting about the information given, which associated with the self-reflection phase. Moreover, studies show that the more the teachers are aware about self-regulated learning strategies and how are they practiced in the learning setting, the more they can provide support to their students and understand the challenges these students are going through. Additionally, school leaders' awareness about SRL is important in order to support teachers in terms of providing them training or guidance about enhancing their students' SRL skills.

The purpose of the study was to respond to the following three research questions:

Students:

- How do students use self-regulated learning strategies in their learning process before and during distance learning setting through School Academic Year (2020 – 2021)?

Teachers:

- To what extent are teachers providing support to their students to develop self-regulated learning skills during distance learning setting through School Academic Year (2020 – 2021)?

School Principals:

- How do school principals or school leaders support teachers to facilitate students' online self-regulated learning during distance setting through School Academic Year (2020 – 2021)?

The findings of the study indicate that teachers, students, and school leaders or school principals need to be aware and learn about self-regulated learning in the online learning environment. Online learning environments show a diverse set of challenges than do traditional learning environments. Differences comprise how information is accessed and organized, learner control on instructional scope and pace, and how to deal with technical issues related to the online environment (Bruso, Stefaniak, & Bol, 2020). Even though the results suggest that the teachers to some extent supported students in terms of SRL, there is a need for professional development or training sessions to guide teachers about practicing and supporting SRL in the learning environment. As a result, once teachers are equipped with the needed knowledge about SRL, they will be able to simply follow up and support their students' SRL during remote learning environments. Moreover, it is important for school leaders to be aware of online SRL so they can support teachers to facilitate SRL in the distance learning setting, therefore, the students will be able to manage their learning process by using the appropriate resources and seeking the support needed through the remote learning context.

6.2 Limitations and Implications for Future Research

This study has some limitations related to the sample size, participants of the study, and research design. To illustrate, the sample size for the students' participation needed to

be between 50 to 100 participants, which were affected by the slow response rate and lack of time and that impacted the validity and reliability of the findings.

As an instructional implication, many students may benefit from classes that teach SRL strategies in preparation for taking online courses (Schwam, Greenberg , & Li, 2021). For instance, schools and universities or colleges can develop an online pre-assessment or introduce SRL for online learners, which could be helpful to those who are considered emerging self-regulated learner group. Another implication is about various strategies that could be integrated into the design and instructional processes to support reduce the lack of accountability felt by online learners. As an example, among these strategies, (1) learners are provided with an enhanced choice of learning materials and activities, (2) social networking chances, (3) media-rich resources, (4) instructional support by modeling and immediate feedback, (5) discussion forums led by students, (6) peer reviews of assignments and tasks, and (7) group projects with definite roles and responsibilities (Bruso, Stefaniak, & Bol, 2020).

Further studies need to be conducted in the field of self-regulated learning in online learning contexts for various age groups as well as how the online SRL skills are supported by teachers, instructors, and school leaders. Self-regulated learning is one of the important skills that students and teachers need to be equipped with and aware of, especially when considering continuous of learning progress that could be impacted by changes that could affect face-to-face learning environment which requires to shift to online learning environments based on the different circumstances which include COVID-19 pandemic. Being an independent student is essential for education sustainability. Therefore, there is a need for some practices to be provided or performed by school leaders, teachers, and students to promote the SRL in online learning settings. For instance, when providing professional development for teachers to be prepared to teach in a distance

learning environment, it is necessary that they learn about online self-regulated learning. As a result, teachers can recognize their students' challenges and difficulties faced in the learning process. From supervising and supporting perspective, school leaders could provide their support to teachers if they needed any professional development plan that enhances their knowledge about practicing and developing SRL skills in the learning environment.

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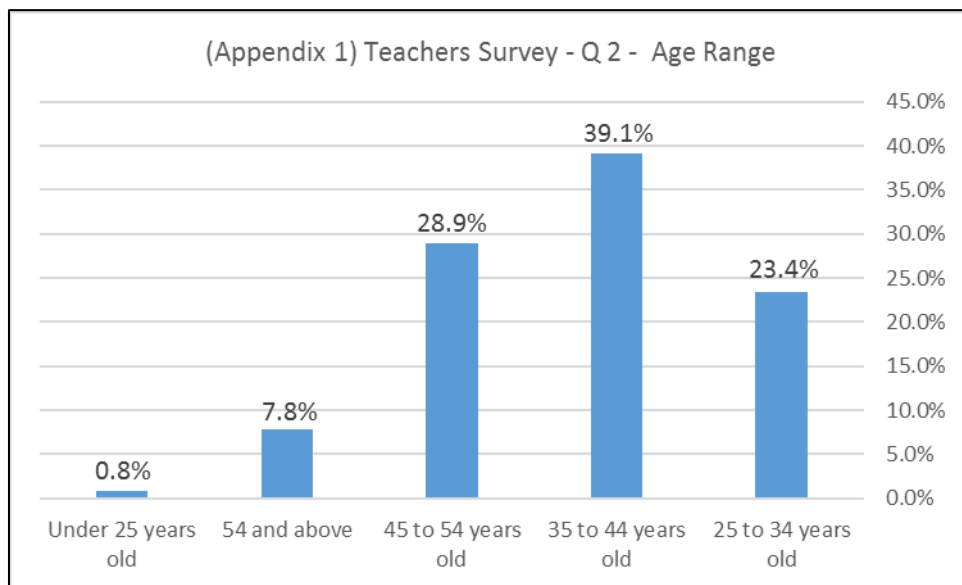
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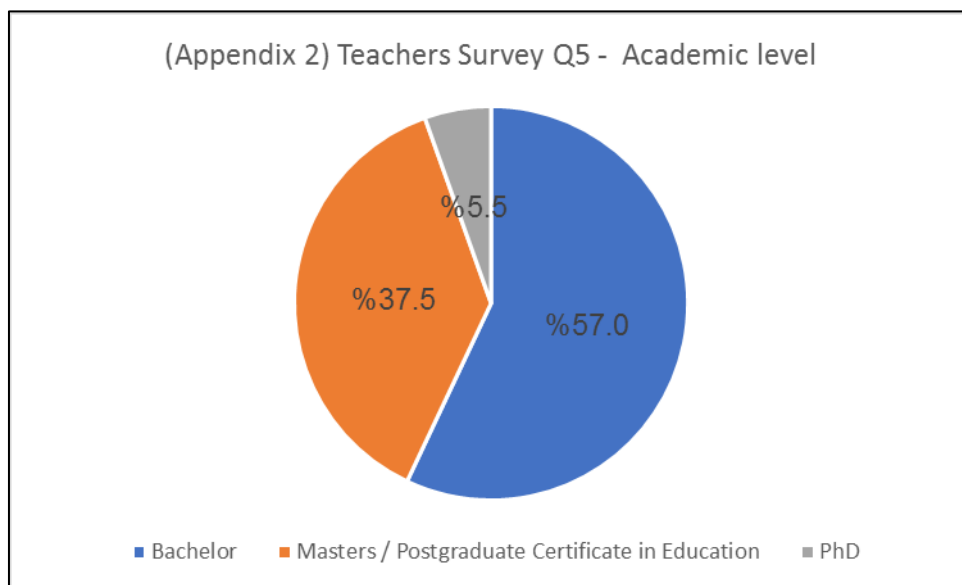
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Appendices

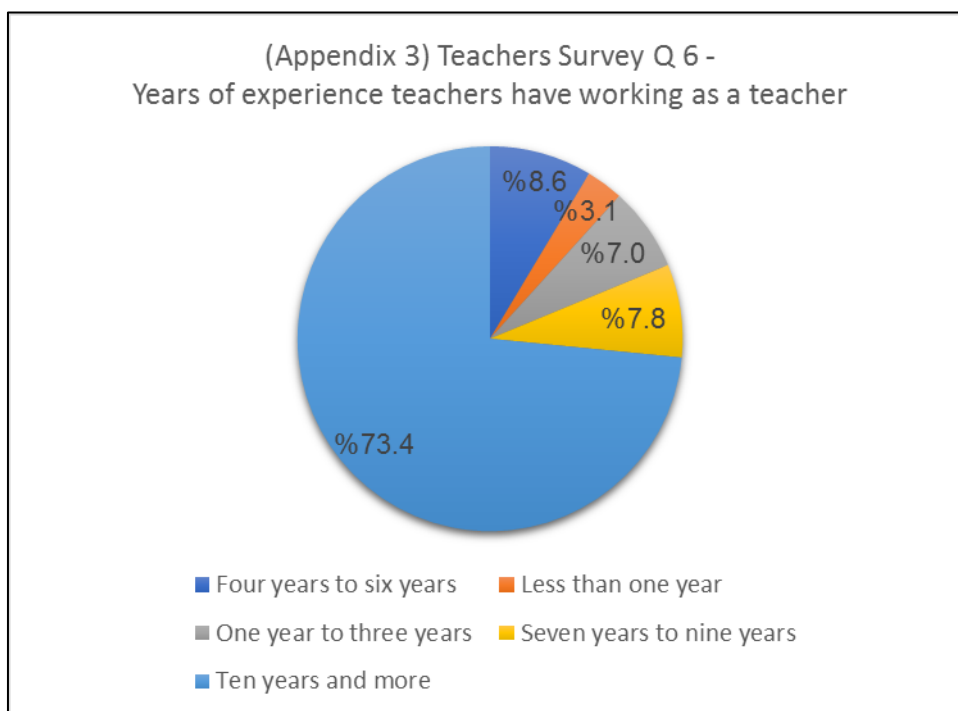
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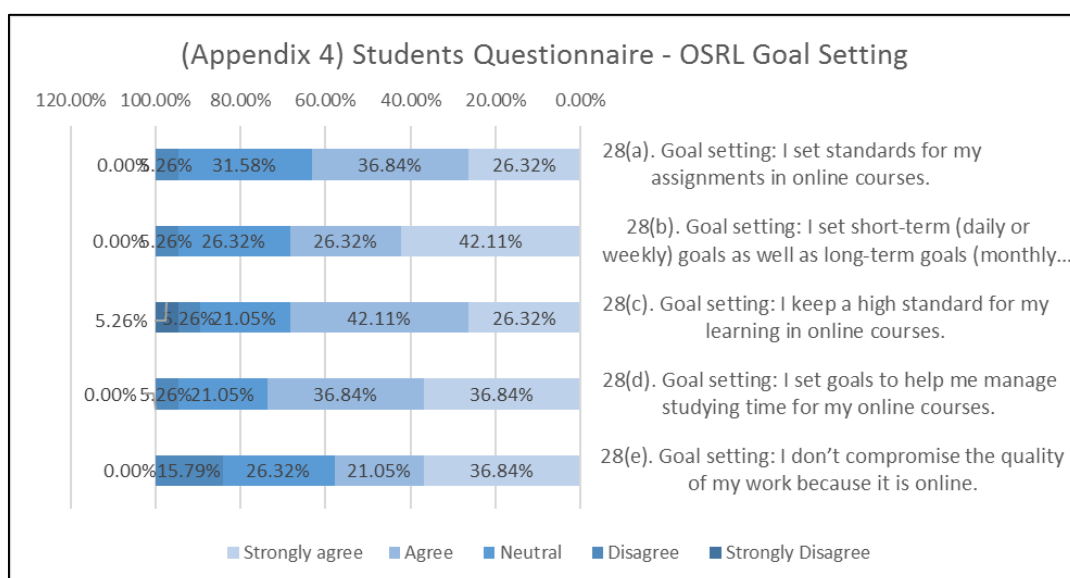
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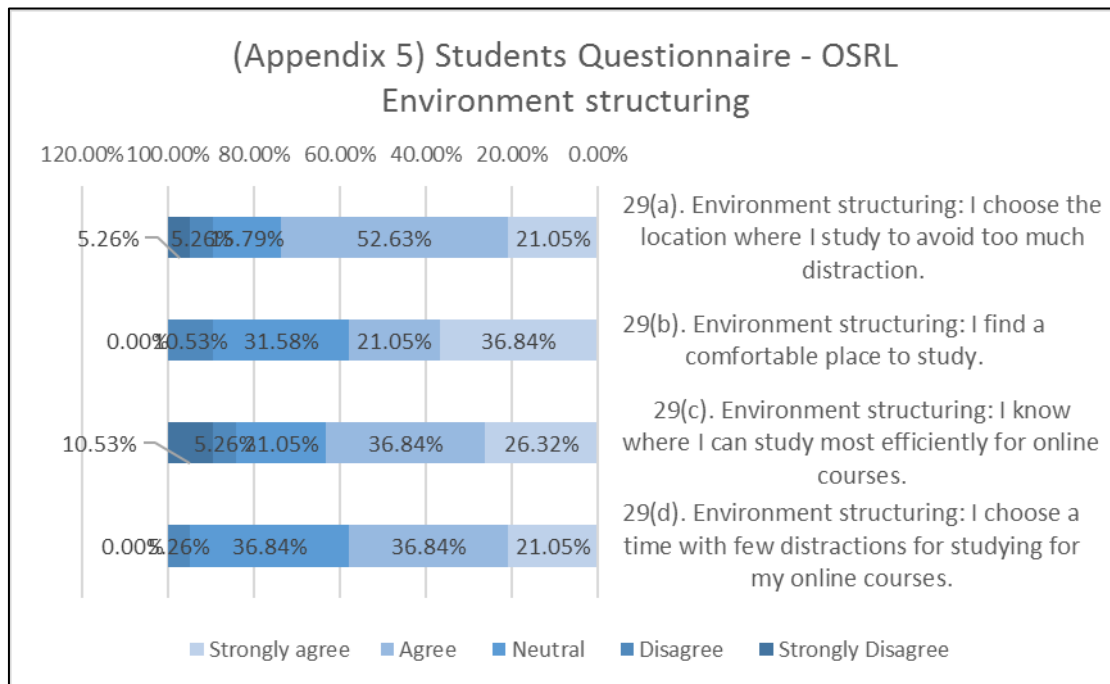
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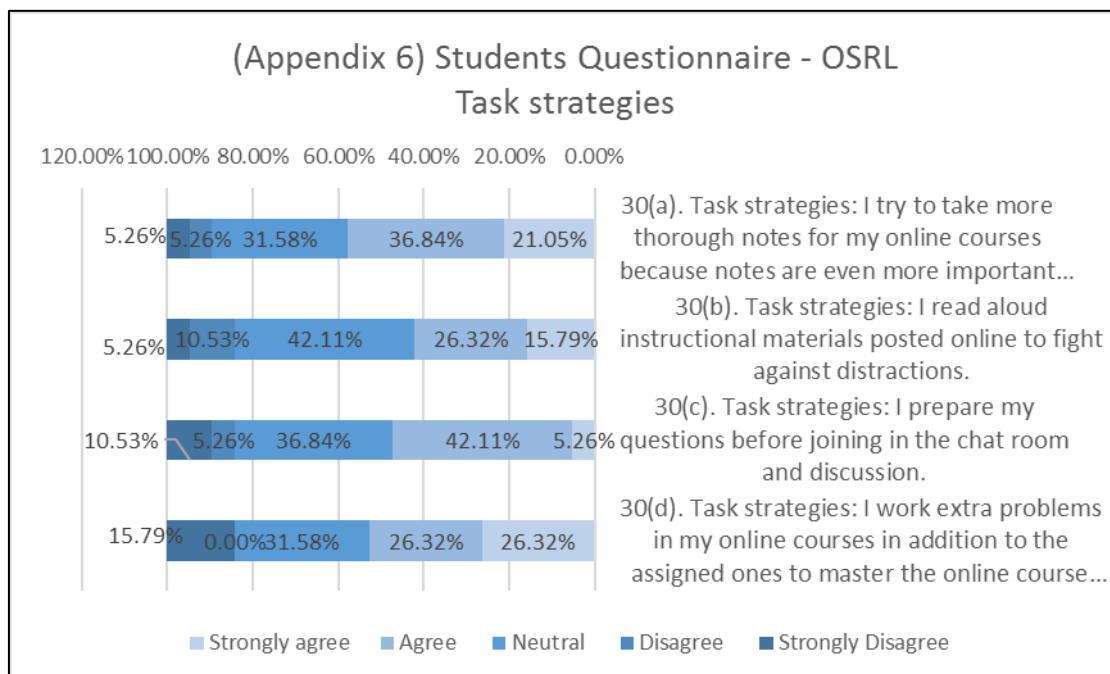
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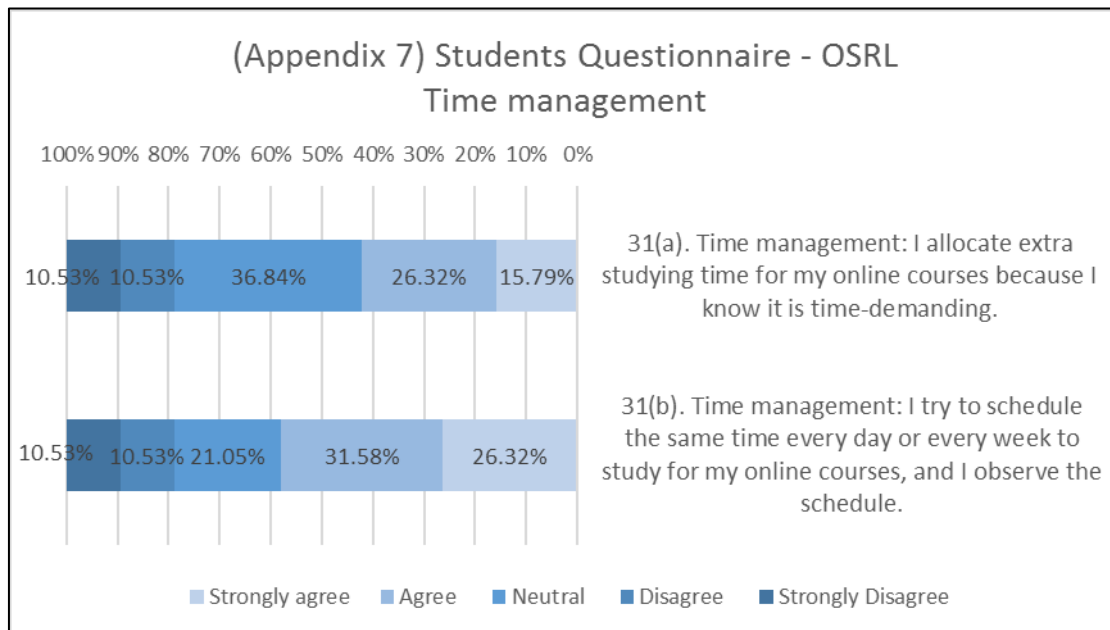
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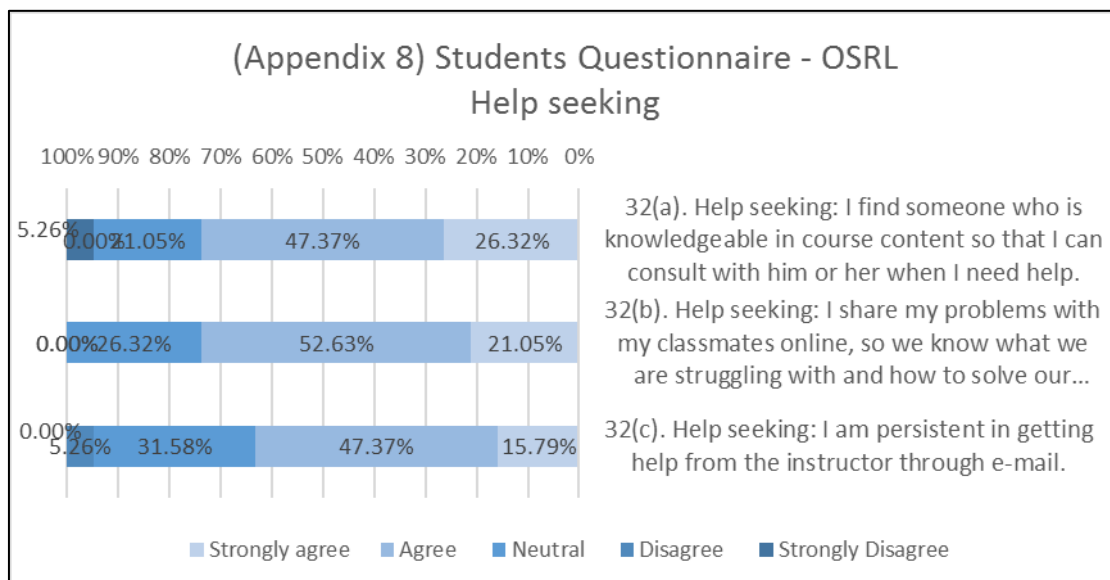
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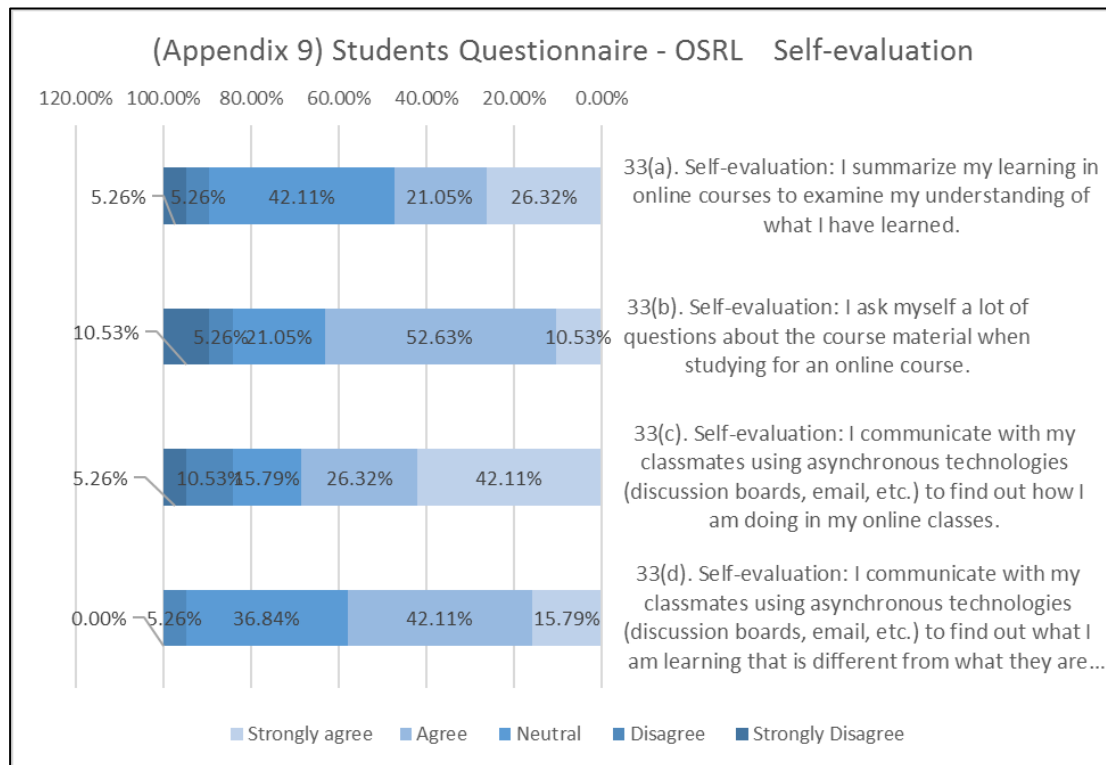
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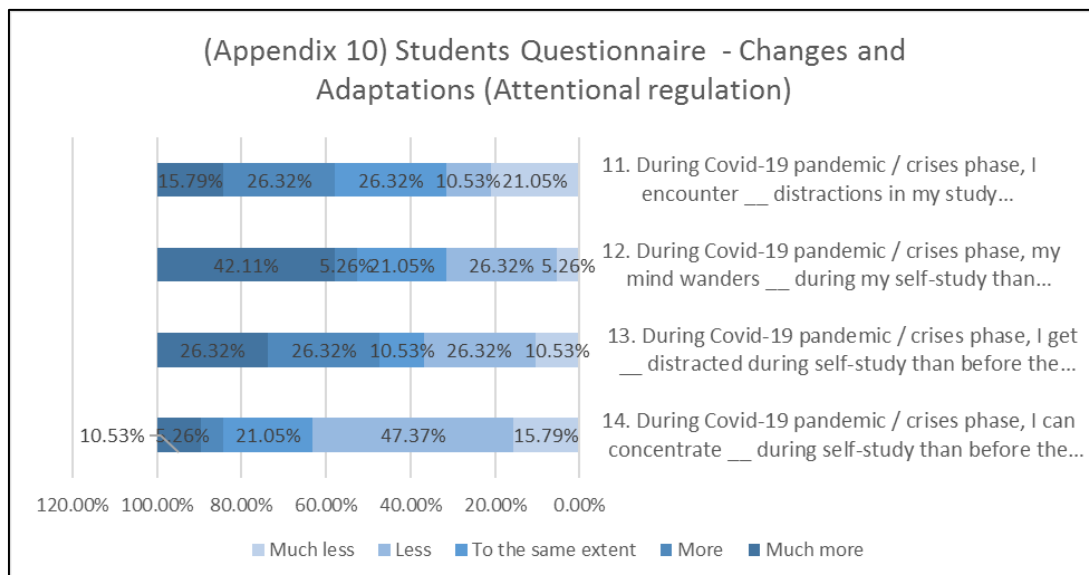
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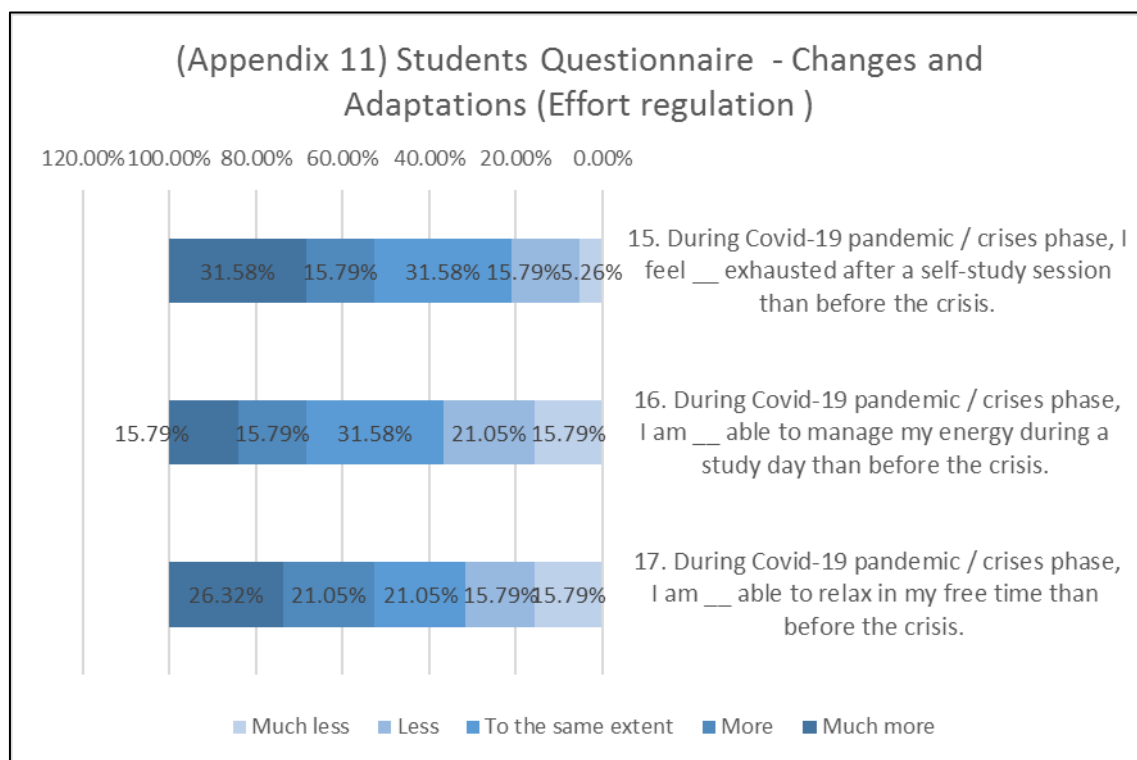
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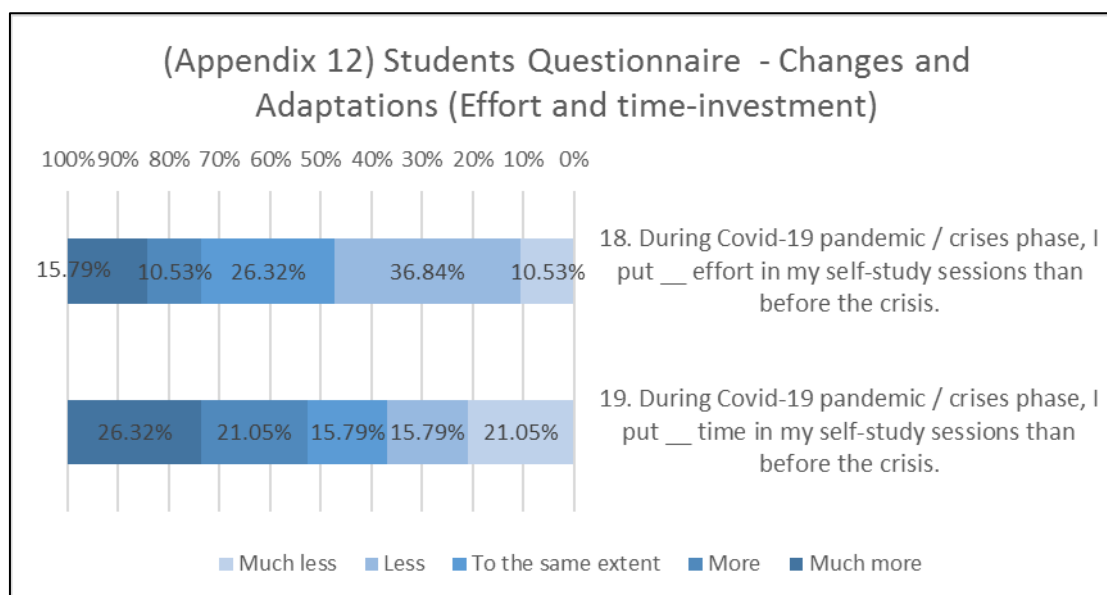
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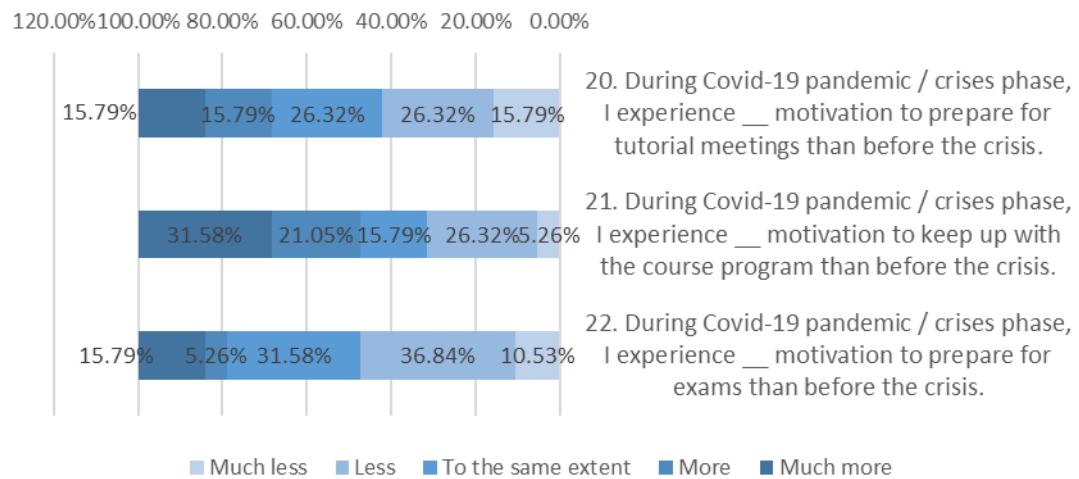


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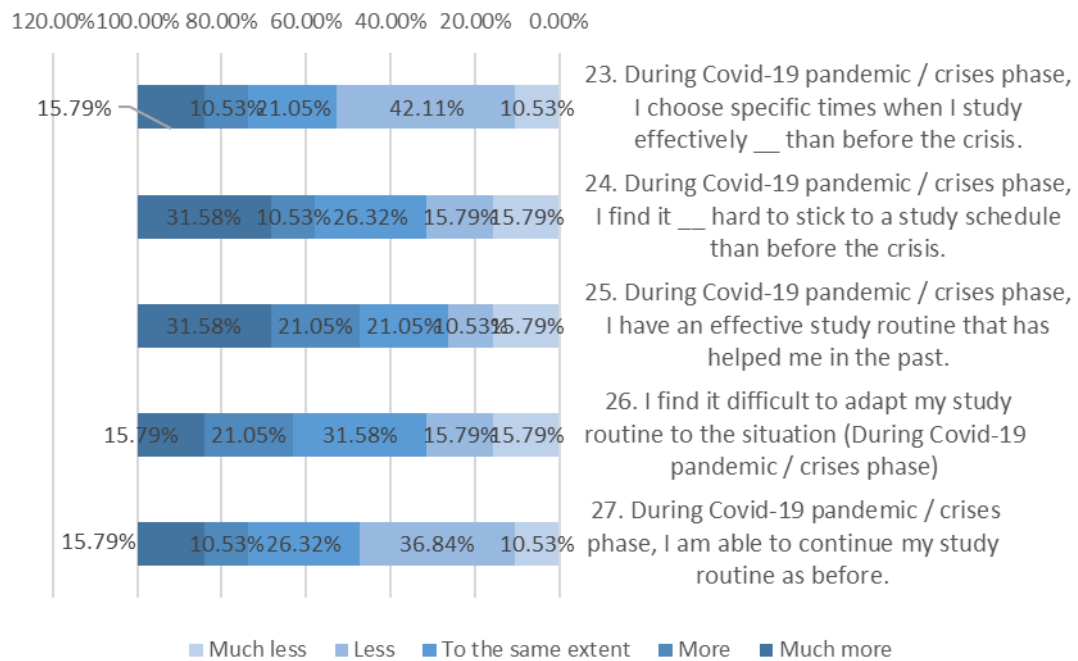
Appendix 13

(Appendix 13) Students Questionnaire - Changes and Adaptations (Motivation)



Appendix 14

(Appendix 14) Students Questionnaire - Changes and Adaptations (Time-management)



Appendix 15. Teachers Survey

* Required Information

The Impact of Distance Learning on Secondary School Students' Self-Regulated Learning

Dear Teachers,

Due to Covid-19 Pandemic, distance learning was implemented in the public and private schools and higher education institutions in the UAE.

You are invited to participate in this study which aims to measure teachers' support and practices for their students to develop self-regulated learning skills during Covid-19 Pandemic in the online learning environment through School Academic Year (2020 – 2021).

Self-regulated learning is about learners' awareness and implementing self-regulated learning by defining personal learning goals, monitoring their progress to those goals, and reflecting on learning to determine if applying their strategies was helpful in terms of achieving a specific goal.

Your participation in the survey is completely voluntary and all your responses will be kept confidential.

Your response and time is greatly appreciated.
Thank you for your cooperation.

The Impact of Distance Learning on Secondary School Students' Self-Regulated Learning

* 1. Gender: (Select one option)

- ☐ Male
☐ Female

* 2. Age Range: (Select one option)

- ☐ Under 25 years old
☐ 25 to 34 years old
☐ 35 to 44 years old
☐ 45 to 54 years old
☐ 54 and above

* 3. Emirate: (Select one option)

- ☐ Abu Dhabi
☐ Dubai
☐ Sharjah
☐ Ajman
☐ Umm Al Quwain
☐ Ras Al Khaimah
☐ Fujairah

* 4. Nationality: (Select one option)

- ☐ Emirati
☐ Other (Please specify) _____

*** 5. Academic level:
(Select one option)**

- ☐ Diploma
- ☐ Bachelor
- ☐ Masters
- ☐ PhD
- ☐ Other (Please specify) _____

*** 6. In general, how many years of experience do you have working as a teacher?
(Select one option)**

- ☐ Less than one year
- ☐ One year to three years
- ☐ Four years to six years
- ☐ Seven years to nine years
- ☐ Ten years and more

*** 7. Is your current employment as a teacher full-time or part-time?
(Select one option)**

- ☐ Full time Job
- ☐ Part time Job (or temporary)
- ☐ Other (Please specify) _____

*** 8. Which grade did you teach during School Academic Year (2020 – 2021).**

- ☐ Grade 9
- ☐ Grade 10
- ☐ Grade 11
- ☐ Grade 12
- ☐ Other (Please specify) _____

*** 9. What subject(s) do you teach?**

- ☐ Islamic Education
- ☐ Arabic

-
- ☐ English
 - ☐ Chemistry
 - ☐ Computer Sciences
 - ☐ Creative Design & Innovation
 - ☐ Design & Technology
 - ☐ Engineering
 - ☐ Health Sciences
 - ☐ Biology
 - ☐ Business Studies
 - ☐ Math
 - ☐ Physics
 - ☐ Science
 - ☐ Social Studies & National Education
 - ☐ Other (Please specify) _____

* 10. Type of Education (School): (Select one option) ☐ Public school ☐ Private school ☐ Other (Please specify) _____ * 11. During Covid-19 pandemic in the online learning environment, what is the primary mode of teaching in your online courses? (Select one option) ☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc) ☐ Recorded Lectures ☐ Discussion Forums/Chats ☐ Uploaded or emailed Materials ☐ Other (Please specify) _____ * 12. During Covid-19 pandemic in the online learning environment, what is your preferred mode of teaching for online courses? (Select one option)
☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc) ☐ Recorded Lectures ☐ Discussion Forums/Chats ☐ Uploaded or emailed Materials ☐ Other (Please specify) _____

13. Why is this your preferred mode?

*** 14. Select the platforms used most? (Please specify all that applies)**

- ☐ Zoom
- ☐ Microsoft Teams
- ☐ Google Meet
- ☐ Blackboard Collaborate
- ☐ Big Blue Button/Canvas
- ☐ Recorded Lectures from your current instructor (could use Panopto/YouTube etc.)
- ☐ Facebook Live, Instagram IGTV/Live, Youtube Live
- ☐ Emailed/Uploaded readings and assignments
- ☐ Moodle/Canvas/Blackboard with no live meetings (ie: no Zoom-like meetings)
- ☐ Facebook Groups, other chat/discussion forums
- ☐ Recorded Lectures/videos from previous years
- ☐ Other (Please specify) _____

*** 15. Which of the following methods do you use for live remote learning (ie: class meetings)? (Please specify all that applies)**

- ☐ Lecture/presentation
- ☐ In-class assessment/ quizzes
- ☐ Explanation using Diagrams/ White Boards/ other media
- ☐ Small group activities
- ☐ Whole class discussion/debate
- ☐ Classroom Chat

- ☐ None
- ☐ Other (Please specify) _____

*** 16. Which of the following techniques do you use outside of class? (Please specify all that applies)**

- ☐ Discussion/ Chat Forums
- ☐ Video Lectures
- ☐ Video Content
- ☐ Posted readings/ Study material
- ☐ Assignments
- ☐ Live office hours
- ☐ Other (Please specify) _____

Section 2: Self-regulated learning skill development

(Please read the definition of self-regulated learning first and proceed to answering the questions in order to answer the following questions more effectively)

"Self-regulated learning refers to an active, constructive process whereby students set goals for their learning and then attempt to monitor, regulate, and control their own cognition, motivation, and behavior, and the contextual features in the learning environment to achieve goals"

Skills during each phase of SRL (All the following questions are based on the 5-point Likert type scale; 1 being Never and 5 being Always)

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always

The following statements are based on the aspects of self-regulated learning. Please choose the one that best describes your actual practice. Here "supports" include any kinds of both instructional (e.g., lecture, demonstration, modeling, discussion etc.) and noninstructional supports (e.g., rewards, encouragement etc.)

I provide my students with some supports so that they can do the following activities by themselves.

17. Phase 1: Forethought, planning, and activation

(Please answer the following questions based on distance learning environment during Covid-19 pandemic phase) (From the list of answer option below, select one for each sub-question.)

- | | | |
|----------|-------------|---------|
| • Always | • Sometimes | • Never |
| • Often | • Rarely | |

*(a) Students set their own subgoals for accomplishing the task (Select one option from the above list)

*(b) Students think on their own about their prior content knowledge related to the task (Select one option from the above list)

*(c) Students think on their own about their past learning experience related to the task (Select one option from the above list)

*(d) Students think on their own about the value they can get from accomplishing the task (Select one option from the above list)

*(e) Students judge on their own how confident they are for accomplishing the task (Select one option from the above list)

*(f) Students think on their own about how much they are interested in the task (Select one option from the above list)

*(g) Students plan on their own how they will use time and effort to accomplish the task (Select one option from the above list)

*(h) Students plan on their own how they will monitor their learning behavior (Select one option from the above list)

*(i) Students think on their own about how they perceive the task (Select one option from the above list)

*(j) Students think on their own about how they perceive the study environment (Select one option from the above list)

18. Phase 2: Monitoring

(Please answer the following questions based on distance learning environment during Covid-19 pandemic phase) (From the list of answer option below, select one for each sub-question.)

- Always • Sometimes • Never
- Often • Rarely

*(a) Students self-monitor how well they are learning (Select one option from the above list)

*(b) Students self-monitor how motivated they are to accomplish the task or how they feel about their learning (Select one option from the above list)

*(c) Students self-monitor their effort, time use, and need for help (Select one option from the above list)

*(d) Students self-monitor changes in the task and the study environment conditions (Select one option from the above list)

19. Phase 3: Control

(Please answer the following questions based on distance learning environment during Covid-19 pandemic phase)

(From the list of answer option below, select one for each sub-question.)

- Always • Sometimes • Never
- Often • Rarely

*(a) Students use (on their own) cognitive strategies for learning (Select one option from the above list)

*(b) Students use (on their own) strategies for managing motivation or affect (Select one option from the above list)

*(c) Students decide (on their own) which things to devote more or less effort to (Select one option from the above list)

*(d) Students decide (on their own) when, why and from whom to seek help (Select one option from the above list)

*(e) Students change or renegotiate (on their own) the task when needed (Select one option from the above list)

*(f) Students change or leave (on their own) the study environment when appropriate (Select one option from the above list)

20. Phase 4: Reaction and reflection

(Please answer the following questions based on distance learning environment during Covid-19 pandemic phase) (From the list of answer option below, select one for each sub-question.)

- Always • Sometimes • Never
- Often • Rarely

*(a) Students self-reflect on how well they did in accomplishing their subgoals (Select one option from the above list)

*(b) Students self-reflect on the reasons for their emotional reactions to the outcomes (Select one option from the above list)

*(c) Students choose (on their own) if and when to do an additional task (Select one option from the above list)

*(d) Students self-evaluate how effective the task was for accomplishing their subgoals (Select one option from the above list)

*(e) Students self-evaluate how effective the study environment was (Select one option from the above list)

Appendix 16. Higher Education Institutions Students Survey

* Required Information

The Impact of Distance Learning on Students' Self-Regulated Learning

Dear Student,

Due to Covid-19 Pandemic, distance learning was implemented in the public and private schools and higher education institutions in the UAE.

You are invited to participate in this study which aims to measure students' attitudes and learning experience in terms of self-regulated learning before and during distance learning.

The study focuses on examining resource management strategies and to what extent students who were capable to manage their resources and adapt to emergency remote learning in Academic Year (2020 – 2021). Moreover, the study emphasizes different aspects of online self-regulated learning which is about learners' awareness and implementing self-regulated learning by defining personal learning goals, monitoring their progress to those goals, and reflecting on learning to determine if applying the strategies was helpful in terms of achieving a specific goal.

Your participation in the survey is completely voluntary and all your responses will be kept confidential.

Your response and time is greatly appreciated.

Thank you for your cooperation.

The Impact of Distance Learning on Students' Self-Regulated Learning

*** 1. Gender:**
(Select one option)

- ☐ Male
☐ Female

*** 2. Emirate:**
(Select one option)

- ☐ Abu Dhabi
☐ Dubai
☐ Sharjah
☐ Ajman
☐ Umm Al Quwain
☐ Ras Al Khaimah
☐ Fujairah

*** 3. Nationality:**
(Select one option)

- ☐ Emirati
☐ Other (Please specify) _____

*** 4. Academic level:
(Select one option)**

- ☐ Diploma
- ☐ Bachelor
- ☐ Masters
- ☐ PhD or above
- ☐ Other (Please specify) _____

*** 5. What is your current level of education in the university / college?
(Select one option)**

- ☐ Freshman (1st year of University/College)
- ☐ Sophomore (2nd year of University/College)
- ☐ Junior (3rd year of University/College)
- ☐ Senior (4th year of University/College)
- ☐ Other (Please specify) _____

*** 6. Indicate grade level that you were in during Academic Year (2020 – 2021):
(Select one option)**

- ☐ Grade 10
- ☐ Grade 11
- ☐ Grade 12
- ☐ Not Applicable
- ☐ Other (Please specify) _____

*** 7. Previous Type of Education (School):
(Select one option)**

- ☐ Public school
- ☐ Private school
- ☐ Other (Please specify) _____

*** 8. During Covid-19 pandemic in the virtual learning environment, what is the primary mode of teaching in your online courses?
(Select one option)**

- ☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams etc)
- ☐ Recorded Lectures
- ☐ Discussion Forums/Chats
- ☐ Uploaded or emailed Materials
- ☐ Other (Please specify) _____

*** 9. During Covid-19 pandemic in the virtual learning environment, what is your preferred mode of teaching for online courses?
(Select one option)**

- ☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc)
- ☐ Recorded Lectures

-
- ☐ Discussion Forums/Chats
 - ☐ Uploaded or emailed Materials
 - ☐ Other (Please specify) _____

*** 10. Select the platforms used most by your instructors? (please select all that apply)**

- ☐ Zoom
- ☐ Microsoft Teams
- ☐ Google Meet
- ☐ Blackboard Collaborate
- ☐ Big Blue Button/Canvas
- ☐ Recorded Lectures from your current instructor (could use YouTube etc.)
- ☐ Facebook Live, Instagram IGTV/Live, Youtube Live
- ☐ Emailed/Uploaded readings and assignments
- ☐ Moodle/Canvas/Blackboard with no live meetings (ie: no Zoom-like meetings)
- ☐ Facebook Groups and other chat/discussion forums
- ☐ Recorded Lectures/videos from previous years, other instructors or from outside of the institution.
- ☐ Other (Please specify) _____

Section 2: Resource Management Strategies

Please read the following statements and answer the questions regarding your distance learning experience in Academic Year (2020 – 2021) during Covid-19 pandemic / crises phase based on the following scale:

1. Much less
2. Less
3. To the same extent
4. More
5. Much more

* 11. During Covid-19 pandemic / crises phase, I encounter ___ distractions in my study environment than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 12. During Covid-19 pandemic / crises phase, my mind wanders ___ during my self-study than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 13. During Covid-19 pandemic / crises phase, I get ___ distracted during self-study than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 14. During Covid-19 pandemic / crises phase, I can concentrate ___ during self-study than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 15. During Covid-19 pandemic / crises phase, I feel ___ exhausted after a self-study session than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 16. During Covid-19 pandemic / crises phase, I am ___ able to manage my energy during a study day than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 17. During Covid-19 pandemic / crises phase, I am ___ able to relax in my free time than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 18. During Covid-19 pandemic / crises phase, I put ___ effort in my self-study sessions than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More

*** 19. During Covid-19 pandemic / crises phase, I put ___ time in my self-study sessions than before the crisis.
(Select one option)**

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 20. During Covid-19 pandemic / crises phase, I experience ___ motivation to prepare for tutorial meetings than before the crisis.
(Select one option)**

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 21. During Covid-19 pandemic / crises phase, I experience ___ motivation to keep up with the course program than before the crisis.
(Select one option)**

-
- ☐ Much less
 - ☐ Less
 - ☐ To the same extent
 - ☐ More

- * 22. During Covid-19 pandemic / crises phase, I experience ___ motivation to prepare for exams than before the crisis.
(Select one option)

☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 23. During Covid-19 pandemic / crises phase, I choose specific times when I study effectively ___ than before the crisis.
(Select one option)

☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 24. During Covid-19 pandemic / crises phase, I find it ___ hard to stick to a study schedule than before the crisis.
(Select one option)

☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 25. During Covid-19 pandemic / crises phase, I have an effective study routine that has helped me in the past.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 26. I find it difficult to adapt my study routine to the situation (During Covid-19 pandemic / crises phase)
(Select one option)**

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 27. During Covid-19 pandemic / crises phase, I am able to continue my study routine as before.
(Select one option)**

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

The Impact of Distance Learning on Students' Self-Regulated Learning

Section 3: Online Self-regulated Learning

Please read the following statements and answer the questions regarding your distance learning experience in Academic Year (2020 – 2021) during Covid-19 pandemic based on the following scale:

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

28. Goal setting (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I set standards for my assignments in online courses. (Select one option from the above list)

*(b) I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the semester). (Select one option from the above list)

*(c) I keep a high standard for my learning in online courses. (Select one option from the above list)

*(d) I set goals to help me manage studying time for my online courses. (Select one option from the above list)

*(e) I don't compromise the quality of my work because it is online. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

29. Environment structuring (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I choose the location where I study to avoid too much distraction. (Select one option from the above list)

*(b) I find a comfortable place to study. (Select one option from the above list)

*(c) I know where I can study most efficiently for online courses. (Select one option from the above list)

*(d) I choose a time with few distractions for studying for my online courses. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

30. Task strategies (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom. (Select one option from the above list)

*(b) I read aloud instructional materials posted online to fight against distractions. (Select one option from the above list)

*(c) I prepare my questions before joining in the chat room and discussion. (Select one option from the above list)

*(d) I work extra problems in my online courses in addition to the assigned ones to master the online course content. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

31. Time management (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I allocate extra studying time for my online courses because I know it is time-demanding. (Select one option from the above list)

*(b) I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

32. Help seeking (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I find someone who is knowledgeable in course content so that I can consult with him or her when I need help. (Select one option from the above list)

*(b) I share my problems with my classmates online, so we know what we are struggling with and how to solve our problems. (Select one option from the above list)

*(c) I am persistent in getting help from the instructor through e-mail. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

33. Self-evaluation (From the list of answer option below, select one for each sub-question.)

• **Strongly agree**

• **Neutral**

• **Strongly Disagree**

• **Agree**

• **Disagree**

*(a) I summarize my learning in online courses to examine my understanding of what I have learned. (Select one option from the above list)

*(b) I ask myself a lot of questions about the course material when studying for an online course. (Select one option from the above list)

*(c) I communicate with my classmates using asynchronous technologies (discussion boards, email, etc.) to find out how I am doing in my online classes. (Select one option from the above list)

*(d) I communicate with my classmates using asynchronous technologies (discussion boards, email, etc.) to find out what I am learning that is different from what they are learning. (Select one option from the above list)

Appendix 17. High School Level School Students Survey

* Required Information

The Impact of Distance Learning on Students' Self-Regulated Learning

Dear Student,

Due to Covid-19 Pandemic, distance learning was implemented in the public and private schools and higher education institutions in the UAE.

You are invited to participate in this study which aims to measure students' attitudes and learning experience in terms of self-regulated learning before and during distance learning.

The study focuses on examining resource management strategies and to what extent students who were capable to manage their resources and adapt to emergency remote learning in Academic Year (2020 – 2021). Moreover, the study emphasizes different aspects of online self-regulated learning which is about learners' awareness and implementing self-regulated learning by defining personal learning goals, monitoring their progress to those goals, and reflecting on learning to determine if applying their strategies was helpful in terms of achieving a specific goal.

If you are below 18 years, please complete the following survey with your parent / guardian.

Your participation in the survey is completely voluntary and all your responses will be kept confidential.

Your response and time is greatly appreciated.
Thank you for your cooperation.

*** 1. Gender:**
(Select one option)

- ☐ Male
☐ Female

*** 2. Age Range: (Select one option)**

- ☐ Below 18 years old
☐ 18 years old and above

*** 3. Emirate:**
(Select one option)

- ☐ Abu Dhabi
☐ Dubai
☐ Sharjah
☐ Ajman
☐ Umm Al Quwain
☐ Ras Al Khaimah
☐ Fujairah

*** 4. Nationality:**
(Select one option)

- ☐ Emirati
☐ Other (Please specify) _____

*** 5. Indicate your current grade level:**
(Select one option)

- ☐ Grade 9
☐ Grade10
☐ Grade 11

- ☐ Grade 12
- ☐ Not Applicable
- ☐ Other (Please specify) _____

*** 6. Indicate grade level that you were in during Academic Year (2020 – 2021):
(Select one option)**

- ☐ Grade 9
- ☐ Grade10
- ☐ Grade 11
- ☐ Grade 12
- ☐ Not Applicable
- ☐ Other (Please specify) _____

*** 7. Type of Education (School):
(Select one option)**

- ☐ Public school
- ☐ Private school
- ☐ Other (Please specify) _____

*** 8. During Covid-19 pandemic in the virtual learning environment, what is the primary mode of learning in your online courses?
(Select one option)**

- ☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams etc)
- ☐ Recorded Lectures
- ☐ Discussion Forums/Chats
- ☐ Uploaded or emailed Materials
- ☐ Other (Please specify) _____

*** 9. During Covid-19 pandemic in the virtual learning environment, what is your preferred mode of learning for online courses?
(Select one option)**

- ☐ Live classes (i.e.: Zoom, Google Meet, Microsoft Teams, etc)
- ☐ Recorded Lectures
- ☐ Discussion Forums/Chats

- ☐ Uploaded or emailed Materials
- ☐ Other (Please specify) _____

*** 10. Select the platforms used most by your instructors? (You can select more than 3 options)**

- ☐ Zoom
- ☐ Microsoft Teams
- ☐ Google Meet
- ☐ Blackboard Collaborate
- ☐ Big Blue Button/Canvas
- ☐ Recorded Lectures from your current instructor (could use YouTube etc.)
- ☐ Facebook Live, Instagram IGTV/Live, Youtube Live
- ☐ Emailed/Uploaded readings and assignments
- ☐ Moodle/Canvas/Blackboard with no live meetings (ie: no Zoom-like meetings)
- ☐ Facebook Groups and other chat/discussion forums
- ☐ Recorded Lectures/videos from previous years, other instructors or from outside of the institution.
- ☐ Other (Please specify) _____

Section 2: Resource Management Strategies

Please read the following statements and answer the questions regarding your distance learning experience in Academic Year (2020 – 2021) during Covid-19 pandemic / crises phase based on the following scale:

1. Much less
2. Less
3. To the same extent
4. More
5. Much more

* 11. During Covid-19 pandemic / crises phase, I encounter ___ distractions in my study environment than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 12. During Covid-19 pandemic / crises phase, my mind wanders ___ during my self-study than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

- * 13. During Covid-19 pandemic / crises phase, I get ___ distracted during self-study than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 14. During Covid-19 pandemic / crises phase, I can concentrate ___ during self-study than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 15. During Covid-19 pandemic / crises phase, I feel ___ exhausted after a self-study session than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 16. During Covid-19 pandemic / crises phase, I am ___ able to manage my energy during a study day than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 17. During Covid-19 pandemic / crises phase, I am ___ able to relax in my free time than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More
☐ Much more

- * 18. During Covid-19 pandemic / crises phase, I put ___ effort in my self-study sessions than before the crisis.
(Select one option)

- ☐ Much less
☐ Less
☐ To the same extent
☐ More

* 19. During Covid-19 pandemic / crises phase, I put ___ time in my self-study sessions than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 20. During Covid-19 pandemic / crises phase, I experience ___ motivation to prepare for tutorial meetings than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 21. During Covid-19 pandemic / crises phase, I experience ___ motivation to keep up with the course program than before the crisis.
(Select one option)

-
- ☐ Much less
 - ☐ Less
 - ☐ To the same extent
 - ☐ More

* 22. During Covid-19 pandemic / crises phase, I experience ___ motivation to prepare for exams than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 23. During Covid-19 pandemic / crises phase, I choose specific times when I study effectively ___ than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 24. During Covid-19 pandemic / crises phase, I find it ___ hard to stick to a study schedule than before the crisis.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

* 25. During Covid-19 pandemic / crises phase, I have an effective study routine that has helped me in the past.
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 26. I find it difficult to adapt my study routine to the situation (During Covid-19 pandemic / crises phase)**
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

*** 27. During Covid-19 pandemic / crises phase, I am able to continue my study routine as before.**
(Select one option)

- ☐ Much less
- ☐ Less
- ☐ To the same extent
- ☐ More
- ☐ Much more

The Impact of Distance Learning on Students' Self-Regulated Learning

Section 3: Online Self-regulated Learning

Please read the following statements and answer the questions regarding your distance learning experience in Academic Year (2020 – 2021) during Covid-19 pandemic based on the following scale:

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

28. Goal setting (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I set standards for my assignments in online courses. (Select one option from the above list)

*(b) I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the semester). (Select one option from the above list)

*(c) I keep a high standard for my learning in online courses. (Select one option from the above list)

*(d) I set goals to help me manage studying time for my online courses. (Select one option from the above list)

*(e) I don't compromise the quality of my work because it is online. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

29. Environment structuring (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I choose the location where I study to avoid too much distraction. (Select one option from the above list)

*(b) I find a comfortable place to study. (Select one option from the above list)

*(c) I know where I can study most efficiently for online courses. (Select one option from the above list)

*(d) I choose a time with few distractions for studying for my online courses. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

30. Task strategies (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom. (Select one option from the above list)

*(b) I read aloud instructional materials posted online to fight against distractions. (Select one option from the above list)

*(c) I prepare my questions before joining in the chat room and discussion. (Select one option from the above list)

*(d) I work extra problems in my online courses in addition to the assigned ones to master the online course content. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

31. Time management (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I allocate extra studying time for my online courses because I know it is time-demanding. (Select one option from the above list)

*(b) I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

32. Help seeking (From the list of answer option below, select one for each sub-question.)

- | | | |
|------------------|------------|---------------------|
| • Strongly agree | • Neutral | • Strongly Disagree |
| • Agree | • Disagree | |

*(a) I find someone who is knowledgeable in course content so that I can consult with him or her when I need help. (Select one option from the above list)

*(b) I share my problems with my classmates online, so we know what we are struggling with and how to solve our problems. (Select one option from the above list)

*(c) I am persistent in getting help from the instructor through e-mail. (Select one option from the above list)

The Impact of Distance Learning on Students' Self-Regulated Learning

33. Self-evaluation (From the list of answer option below, select one for each sub-question.)

• Strongly agree

• Neutral

• Strongly Disagree

• Agree

• Disagree

*(a) I summarize my learning in online courses to examine my understanding of what I have learned. (Select one option from the above list)

*(b) I ask myself a lot of questions about the course material when studying for an online course. (Select one option from the above list)

*(c) I communicate with my classmates using asynchronous technologies (discussion boards, email, etc.) to find out how I am doing in my online classes. (Select one option from the above list)

*(d) I communicate with my classmates using asynchronous technologies (discussion boards, email, etc.) to find out what I am learning that is different from what they are learning. (Select one option from the above list)

Appendix 18. School Leaders Open-ended Interview Questions

* Required Information

The Impact of Distance Learning on Secondary School Students' Self-Regulated Learning

Dear School Principals,

Due to Covid-19 Pandemic, distance learning was implemented in the public and private schools and higher education institutions in the UAE.

You are invited to participate in this study which aims to examine school principals' attitudes towards supporting teachers to facilitate students' Self-Regulated Learning in the learning process during Covid-19 Pandemic in the distance learning environment through School Academic Year (2020 – 2021).

Self-regulated learning is about learners' awareness and implementing self-regulated learning by defining personal learning goals, monitoring their progress to those goals, and reflecting on learning to determine if applying their strategies was helpful in terms of achieving a specific goal.

Your participation in the interview is completely voluntary and all your responses will be kept confidential.

Your response and time are greatly appreciated.

Thank you for your cooperation.

*** 1. Gender:**
(Select one option)

- ☐ Male
☐ Female

*** 2. Age Range:**
(Select one option)

- ☐ Below than 25
☐ 25 to 35 years old
☐ 35 to 45 years old
☐ 45 to 55 years old
☐ 55 and above

*** 3. Emirate:**
(Select one option)

- ☐ Abu Dhabi
☐ Dubai
☐ Sharjah
☐ Ajman
☐ Umm Al Quwain
☐ Ras Al Khaimah
☐ Fujairah

*** 4. Nationality:**
(Select one option)

- ☐ Emirati
☐ Other (Please specify) _____

*** 5. How many years of work experience do you have working as a school principal? (Select one option)**

☐ Less than one year

☐ One to three years

☐ Four years to six years

☐ Seven years to nine years

☐ Ten years and more

*** 6. What grades are available in your school? (Please specify all that applies)**

☐ Grade 5

☐ Grade 6

☐ Grade 7

☐ Grade 8

☐ Grade 9

☐ Grade 10

☐ Grade 11

☐ Grade 12

☐ Other (Please specify) _____

*** 7. Type of Education (School): (Select one option)**

☐ Public School

☐ Private School

☐ Other (Please specify) _____

(Please read the definition of self-regulated learning first and proceed to answering the questions in order to answer the following questions more effectively)

"Self-regulated learning refers to an active, constructive process whereby students set goals for their learning and then attempt to monitor, regulate, and control their own cognition, motivation, and behavior, and the contextual features in the learning environment to achieve goals"

* 8. Explain what self-regulated learning means to you?

* 9. How do you perceive your role in promoting self-regulated learning during distance learning environment?

* 10. Describe ways you ensure that teachers are prepared to facilitate students' self-regulated learning during distance learning environment?

* 11. Describe ways you encourage teachers to facilitate students' self-regulated learning during distance learning environment?

- * 12. What resources are provided to help teachers facilitate students' self-regulated learning during distance learning environment?

- * 13. Have teachers indicated any obstacles in their attempts to foster self-regulated learning? If so, what are they?

- * 14. Describe the distance learning environment in your school and how it aids online self-regulated learning?

- * 15. Are there ideas or plans not yet realized that you think would help self-regulated learning during distance learning environment? How are these being pursued?
