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**EXPLORING STUDENTS' PERCEPTIONS OF ONLINE TEACHING AND
LEARNING IN TERTIARY EDUCATION AMID THE COVID-19 PANDEMIC:
THE CASES OF UNITED ARAB EMIRATES AND FIJI ISLANDS**

MA thesis

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ABSTRACT

The present thesis gathers the perceptions on online teaching and learning of students attending third-level education establishments in Fiji Islands and the United Arab Emirates amid the Covid-19 pandemic. This study investigated the impact of students' personal factors and the online learning environment, especially about the usefulness of online learning systems. The theoretical framework of the study is grounded on the Social Cognitive Theory (SCT) aiming to frame the student's satisfaction of online education according to 3 criteria: engagement and participation, academic self-efficacy, and teacher presence. Once the challenges and opportunities of Covid-19 had on education in both nations were explored, the hypotheses and research question of the quantitative empirical research were formulated to become a stepping-stone for the proceeding data collection and statistical analysis. The findings exposed the significant role played by the students' behavioural and emotional engagement and its contribution in supporting student satisfaction outcomes. They illustrated how online students' behaviour can be modelled by considering their personal and environmental influences shedding light on all conceptual indicators set earlier followed by the presentation of its limitations, comprehensive conclusions, and final thoughts.

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I) INTRODUCTION

The Covid-19 pandemic caused by the SARS-CoV-2 virus first appeared in China in late 2019 and spread around the world rapidly within months (Zhou *et al.*, 2020). Covid-19 has had a profound impact on educational systems throughout the world, closing numerous schools, colleges, and institutions (Sage *et al.*, 2021) demonstrating that the global education system has been the one that has been mostly disturbed.

Since the outbreak of the Covid-19 virus, higher education institutions found themselves in a race to immediately introduce online learning options for staff and students (UNESCO, 2020) witnessing a rapid development of integrate new technologies into educational processes (Sheshasaayee & Nazreen Bee, 2018). The Covid-19 pandemic has resulted in educational institutions across the world being suddenly obligated to initiate remote teaching for students at all levels and in all disciplines. Covid-19 has led to major structural changes in higher education; students, instructors, and institutions have now developed a familiarity with distance education, as student and labour demands have changed. Educators are experiencing possibilities of exercising greater flexibility, which can result in greater accessibility of education for students across the world at all grade levels. The UAE has well-established IT infrastructure to launch distance education as part of its education system, while other, developing, counties like Fiji Islands are still struggling with basic to distant education issues like stable internet connectivity and access to required electronic devices both teachers and students.

Nowadays, although the Covid-19 pandemic has established remote work as the new normal (Ng *et al.*, 2022) and research on online learning has gained visibility in recent times, distance learning has not received enough attention, especially in Gulf countries like the United Arab Emirates (UAE) and in small island, developing countries like Fiji. The present study examines students' perceptions and experiences of online teaching and learning in tertiary education institutions in UAE and Fiji Islands during the Covid-19 pandemic in terms of its implementation, necessity, and effectiveness. United Arab Emirates University (UAEU) and the University of Fiji (UniFiji) are two educational establishments that were kept closed due to the Covid-19 pandemic jeopardizing the academic calendars, and the institutions where the sample of the present study derives from. Despite the profound differences between these two universities in terms of student population, infrastructure, funding/budget availability etc, both have shifted to online learning platforms to keep the academic

activities going. However, the questions about the preparedness, designing, and effectiveness of e-learning is still not clearly understood.

To address this theoretical gap the present study is divided into 5 chapters. The first chapter outlines an introductory overview of the conceptual background highlighting the importance of the online teaching and students' perceptions about it. The second chapter is dedicated to the literature review. It is comprehensive bibliographical research of the theories pertinent to the present research setting the stepping-stone for the development of the methodology, which comes in Chapter 3. Once the theoretical gaps were pinpointed, the methodology section aims to expand on the structure that the survey was based on. The structure includes in detail all hypotheses, research question, and elements, which constitute the spin cord of the entire study. In continue, Chapter 4 presents the results of the empirical research based on the in-depth statistical analysis of the data collected in both countries. Finally, the last chapter provides the limitations of the entire methodology and data analysis sections before expressing some final thoughts on my research journey.

II) THE CONCEPTUAL FRAMEWORK

1. Theoretical Background

1.1. *Social Cognitive Theory (SCT)*

SCT is multi-faceted theory that finds application in various settings; and the present research focuses on (higher) education. SCT is a psychological perspective on student functioning that illustrates the critical role played by personal and environmental influences in the development of student behaviour (Bandura, 1986); in our case, engagement in online learning. Social cognitive theorists, like Piaget, Vygotsky and later, Bandura have articulated that student behaviour can be shaped based on the physical context or environment in which they learn (Bandura, 1993, 1997; Wu *et al.*, 2010). SCT posits that people are not simply shaped by that environment; they are active participants in their environment. It states that when people observe a model performing a behaviour and its consequences, they remember the sequence of events and use this information to guide subsequent behaviours. The unique feature of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement. The theory considers a person's past experiences, which factor into whether behavioural action will occur (Bandura, 1986). Therefore, a major component of the SCT theory is observational learning – the process of learning desirable and undesirable behaviours by observing others and then reproducing learned behaviours in order to maximize rewards. In other words, observing a model prompts the viewer to engage in behaviour they already learned (Bandura, 2008). At the same time, individuals' beliefs in their own self-efficacy influences whether they will reproduce an observed behaviour. Indeed, students' anticipated outcomes and their own capabilities are motivational factors that contribute to the shaping of their behaviour (Reschly & Christenson, 2012).

In contrast to face-to-face learning, the environmental influences in the context of online learning environments include elements like technology, interaction, and student control (Piccoli *et al.*, 2001). These environmental influences are categorised into the technological environment and the social environment (Wu *et al.*, 2010). The technological environment describes the online learning system's applicability and functionality (Wang & Lin, 2007), while the social environment refers to student engagement, teachers' presence, and social interactions in general.

1.2. *Student Satisfaction in Online Learning*

1.2.1. Engagement and Participation

Student engagement refers to the continuous effort made by students towards their learning process in order to achieve their desired learning goals (Coates, 2006). Student engagement with students and teachers is a multidimensional concept that includes both behavioural and cognitive dimensions (Fredricks *et al.*, 2004). It creates a sense of community, which has been often correlated with effective learning outcomes (Rovai & Wighting, 2005; Lear *et al.*, 2010; Chatterjee & Correia, 2020). Past studies of online students' engagement have been focused on a single dimension, the present research concentrates on both the aspects of cognitive and behavioural aspect of student engagement, which are inter-related. On one side, cognitive engagement reflects student investment in learning for understanding and mastering difficult concepts (El-Sayad *et al.*, 2021). On the other side, the behavioural dimension of student engagement refers to participation in academic activities including the number of lecture videos viewed or posts made in discussion forums, and how many quizzes and assignments are completed (Hu & Hui, 2012; Ma *et al.*, 2015).

Trying to understand the factors influencing student engagement, Moore (1993) defined 2 types of interactions: student to student – student to teacher – student to content. Student to student interactions include group activities, peer assessments, and online communication via chat forum, discussion boards etc. Such interactions contribute to eliminating isolation and fostering stronger student relationships (Revere & Kovach, 2011; Banna *et al.*, 2015; Martin & Bolliger, 2018). In continue, student-teacher interactions in online education have been characterized as pivotal in encouraging engagement through multiple communication channels like regular reminders, announcements, course discussions, and consistent feedback provided to students (Swan & Shih, 2005; Gaytan & McEwen, 2007; Chakraborty & Nafukho, 2014; Martin & Bolliger, 2018). Finally, students' interaction with content is about students' engagement with curricular materials and virtual classroom activities, which prompt scaffolding and deeper understanding through reflection (Abrami *et al.*, 2012; Wimpenny & Savin-Baden, 2013; Martin & Bolliger, 2018).

1.2.2. Academic Self-Efficacy

Self-Efficacy Theory has had considerable influence on various research fields, including education. The term “self-efficacy” refers to the level of confidence in his/her ability to successfully execute a behaviour, reflecting confidence in the ability to exert control over one's own motivation, behaviour, and social environment (Bandura, 1977, 1997). Self-efficacy can also increase or decrease the observer's belief to mimic or duplicate observed behaviours. In reality, when people see others like

them succeed, they also believe they can be capable of succeeding: “if they can do it, I can do it”. Thus, the vicarious experience of observing others functions as a source of motivation and inspiration (Pajares *et al.*, 2009).

Perceptions of self-efficacy do influence people’s choices and beliefs in themselves, including the goals they choose to pursue and the effort they put into them, how long they’re willing to persist and overcome possible obstacles, and the outcomes they expect (Maddux, 2011). Therefore, such beliefs can impact personal growth and change, especially within the sphere of education where self-efficacy affects every possible area of academic achievement (Schunk, 1991; Pajares, 1996). For example, belief in one’s self-efficacy can be the difference between whether an individual even considers making positive changes in their (academic) life (Maddux, 1995).

Students who believe in their ability to do well academically tend to be more motivated in school (Schunk, 1991), they continue to set even more challenging goals (Schunk, 1990) leading to better performance in school in terms of higher grades and taking more challenging classes (Multon *et al.*, 1991). In the same vein, teachers’ self-efficacies also can affect how well students perform in school, leading to better academic performance (Hoover-Demsey *et al.*, 1987).

The benefits of self-efficacy continue beyond the school years. Beyond the interaction between self-efficacy and student’s actual ability, people with increased self-efficacy toward performing well in school tend to achieve a more successful and a wider range of career options (Lent *et al.*, 1986; Stajkovic & Luthans, 1998) than students with low self-efficacy, either with greater or lesser ability (Collins, 1984).

1.2.3. Environmental Factors (teacher presence)

A vital aspect of virtual learning is the teachers who prepare and deliver the online learning materials. Students tend to view teachers’ role as that primarily of guidance and assessment/marking of completed work (Marín-Díaz *et al.*, 2021) placing communication with the teacher high on importance scale (Tang *et al.*, 2020).

SCT makes clear that people can learn by observing others; and learners can acquire new behaviours and knowledge by simply observing a model. In education, “model” is a person who demonstrates

behaviour for someone else, aka the teacher. Teachers are responsible for the instructional design, discourse facilitation, and overall course organisation based on objectives and learning outcomes set by them (Anderson *et al.*, 2001). Their role and presence are multifaceted including, but not limited to, instruction of course materials, sharing knowledge, providing constructive feedback and guidance, and encouraging students to learn collaboratively (Anderson *et al.*, 2001; Shea & Bidjerano, 2009). Relevant studies have shown that environmental factors in online learning – and teacher presence in particular – are a strong predictor of higher student engagement and satisfaction (Eom & Ashill, 2016; Gray & DiLoreto, 2016; Vayre & Vonthorn, 2017; Martin *et al.*, 2018).

2. Aims and Objectives

The results of this study are important for educational institutes in both countries and respective regions for two main reasons. Firstly, the shift to online mode has been an abrupt one due to unprecedented lockdown imposed to manage the Covid-19, and the institutes did not had time to design and adopt the course contents for online mode. In this context, experience of students and the learnings can be incorporated to make online learning easy, efficient, and productive. Second, even after lockdown is revoked, life after the Covid-19 pandemic will not be like before and online learning is here to stay, though in combination with regular offline classes. So, all the educational institutes need to be prepared to shift majority of the course content to e-learning platforms and modify the course structure and curriculum suitably. The results of our study can be an important input in deciding on the learning environment in online platform to promote effective learning highlighting any similarities and discrepancies among those two very different educational settings. In fact, this study contributes to the general understanding of the online classroom learning and virtual learning resources examining how undergraduate students at two educational institutions in UAE and Fiji measured the student satisfaction of the education provided during the Covid-19 pandemic. The subject of this paper is the evaluative investigation of the emergency remote teaching and learning process and the challenges faced by students in higher education in the period of the COVID-19 pandemic. We focus on understanding Government & Society (UAEU) and Faculty of Law (UniFiji) students' perception and preference towards the online teaching and learning through an online survey. We also aim to explore the students' preferences for various attributes of online classes, these results offer important implications for online learning effectiveness and student adaptation, which will be helpful to design effective online learning environment in the future.

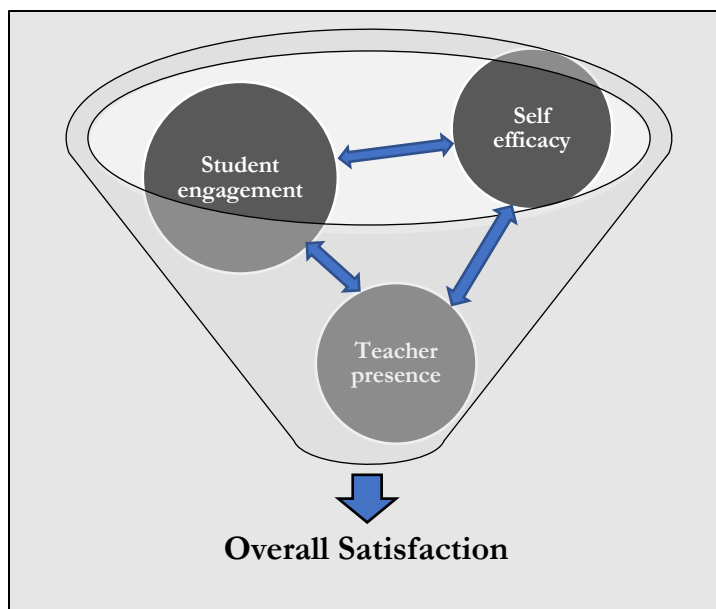
Being an exceptional and novel situation, the potential impact of the prolonged lockdown on students' academic performance and its evaluation is still largely unknown, especially in Gulf or developing nations (Chaudhry *et al.*, 2021; Shishakly & Sabah, 2021). It is also hoped that the present study will shed light on the importance and benefits of online learning systems and trends in tertiary education, as well as provide the necessary information as to how the e-learning experience provided by higher education institutions. Ultimately, as this empirical study was in parallel conducted in UAE and Fiji, it contributes to add valuable evidence regarding online student engagement and satisfaction in the context of both a developed and developing country.

2.1. *Research Question*

This study aims to examine the influence of academic self-efficacy, the impact of teachers' presence, the levels of student engagement, and the overall satisfaction with online learning reflecting their willingness to return to in-person, traditional teaching (*see* Figure 1). Therefore, the main research question deriving from the that the present research study seeks to answer is:

“What contributing factors influence the perceptions of satisfaction on e-Learning of higher education students in UAE and Fiji Islands?”

Figure 1: The research model



2.2. Hypotheses

Breaking down the deriving variables into separate statements, the 4 hypotheses formulated are:

Hypothesis 1 (academic self-efficacy):

(Positive) *H1.1.* Students' capabilities and expectations of e-learning have been fulfilled in terms of knowledge and motivation.

(Positive) *H1.2.* Students' capabilities and expectations of e-learning have been fulfilled in terms of social competences.

Hypothesis 2 (student engagement):

(Negative) *H2.1.* Student participation in online educational activities has been negatively impacted by limited IT skills.

(Negative) *H2.2.* Student participation in online educational activities has been negatively impacted by the lack of prior relevant experience.

Hypothesis 3 (environmental factor):

(Null) *H3.1.* Teacher presence plays no role on student engagement in face-to-face education.

(Null) *H3.2.* Teacher presence plays no role on academic self-efficacy in face-to-face education.

Hypothesis 4 (overall satisfaction):

H4.1. Students enjoyed online classes based on perceived advantages and disadvantages of e-learning.

3. The Impact of Covid-19 on Higher Education

3.1. *Challenges and Opportunities Presented by e-Learning*

The sudden closure of several campuses and colleges throughout the globe as an extreme measure to curb the rapid spread of Covid-19 virus has made it clear that the delivery of online courses and the promotion of e-learning is now more essential than ever. Educational systems responded to the global pandemic with urgent e-course options, which resulted to the rapid transition from face-to-face to online learning.

According to UNESCO, over 90% of the world's learners – or over 1.3 billion students – have been impacted by the closure of educational institutions in 186 countries (including United Arab Emirates and Fiji Islands), where both instructors and students have suffered as a result of this shutdown (Meinck *et al.*, 2022). Professors in tertiary level educational institutions were compelled to move from face-to-face classroom interactions to a requirement to rapidly adapt to online classes from remote

locations, combined with a lack of social contact (El-Sayad *et al.*, 2021). Canceling sessions or converting curricula to online courses, students were asked to join a call session and be virtually taught the relevant materials. Due to this unprecedented situation, which – for most affected countries, gradually started in early 2020 (or even later, in mid-2021, in Fiji Islands) and continues up to this day, numerous physical examinations have been, subsequently, cancelled globally along with physical education programs (Wang *et al.*, 2021). As a general norm, since there were no longer physical tests arranged, students were obliged to take online exams in order to receive a grade and proceed with their studies (Ali, 2021).

3.1.1. Challenges

One of the difficulties encountered was the unavoidable interruption to established procedures brought on by the rapid and unexpected risk. Such disruption required quick decision-making and perhaps ineffective remedies to negative financial effects. Pre-existing plannings, such as those for events, conferences, exhibits, and international and national test arrangements, had also been disrupted. Whenever feasible, some of them were hosted virtually instead, while others had to be postponed or canceled incurring large related financial losses.

However, the shift to the new education system – irrespective of format – had a significant global impact on university students' learning outcomes and their quality of life in the form of an increased exam anxiety, failure to adapt to virtual learning tasks, reduced learning time and interpersonal relationships, and growing feelings of depression and isolation (Aristovnik *et al.* 2020; Procentese *et al.*, 2020; Magson *et al.*, 2021) – elements that had already emerged before the Covid-19 outbreak (Hong, 2002; Mcinnerney & Roberts, 2004; Sun *et al.*, 2008). Also, the transition to distance learning has been linked to inadequacies and problems in terms of resources and course content, making it difficult for students to fully engage in the learning process, especially in developing countries (García-Martín & García-Sánchez, 2022). A recent study reveals that students have mixed feelings as to whether online education helped them to learn effectively, the majority of whom agreed that getting understanding of concepts during self-study is challenging due to limited face-to-face interaction as compared to learning in groups and with the teacher (Ali, 2021).

Quality-wise, there is still a common opinion that distance education may be lower or lacks accreditation when comparing with the classical conventional classroom education (Demirel, 2016).

Compared to in-person education, this may cause students to be less focused and produce work of lower quality. In addition, students who are creative may be restricted by online education (Ahmadi, 2020). Although physical education costs more than online learning, it provides greater discipline, recognition, and creative freedom (Sheshasaayee & Nazreen Bee, 2018).

Yet, assessments seemed to be the most challenging part to be adapted to distance learning. In fact, many universities were concerned about how to evaluate and assess students' learning objectives with integrity and fairness (Altuwairash, 2021). Online learning has been largely promoted as an effective form of instruction, but the accessibility has been an issue since students and teachers should possess technological devices such as smart phones or computer devices and, of course, reliable internet connection to be able to access online education (Almuraqab, 2020; Anastasakis *et al.*, 2021)¹. Other challenges posed by distance learning during the pandemic were related to the increase of negative emotions (like fear and anxiety, *see* Saravanan *et al.*, 2020; Yaghi, 2021), learning of new concepts, especially those requiring hands-on experience in laboratories, and students' insecurity to handle software used in online education (like use it adequately and post materials in a timely manner, *see* Amarneh *et al.*, 2021). All these have been the result of faculty members' and students' insufficient adoption and adaptation to the distance learning, since it happened suddenly as a reaction to the pandemic, without a proper and insufficient training (Leo *et al.*, 2021).

3.1.2. Opportunities

Virtual learning has been described as the process of changing from instructor-interest to learner-interest (Sheshasaayee & Nazreen Bee, 2018) allowing high levels of convenience and flexibility (Hande, 2014; Mulyadi & Purnama, 2019). A distinct feature of online learning is its capacity to take place in different formats, including fully synchronous, fully asynchronous, or blended (Frank, 2008).

Online education approaches and virtual classrooms have the potential to encourage student engagement to ensure active and collaborative learning (Islam *et al.*, 2023). The use of remote working methods and the departure from the conventional long-term existing work models has also shown considerable benefits during these crucial times (Ng *et al.*, 2022). As it seems, remote work is here to

¹ For those who have issue either related to internet access or technological resources, the government did an extra mile to support them all with gadgets and home internet needed for free (Ali, 2021).

stay; and with this transformation and the corresponding benefits that came with it, remote work was successfully established as a legitimate and valid work model to be embraced in the next years (Stanier, 2022). By reducing operational expenses related to space (offices and classrooms), rent/leasing, maintenance, and commuting, the remote work model offered a big future potential for a decrease in expenses for faculty, administration, and students alike. Henceforth, distance and/or blended education could be a good tool for this category of students to continue their higher education, while taking care of their family, life, and employment responsibilities as long as related issues are taken into consideration for creating a seamless online education experience.

While Covid-19 may have compounded the challenges that already existed in producing quality university graduates capable of actively engaging in the socio-economic development of their country, the pandemic also presents an opportunity to redirect the country's strategies towards achieving its goal of creating a knowledgeable society. Past studies reveal that most students have high perception toward online learning and its benefits, and some students favoured in-class learning too. Therefore, one can argue that such system supports the blended learning as an effective approach due to its flexibility, and achieve students' preferences of learning approach (Belhaj, 2022). In addition, the use of e-learning in the educational process improves the quality of practical training and provides a better understanding of the course (Yanuschik *et al.*, 2015).

3.2. *The Case of United Arab Emirates*

The Covid-19 outbreak and the educational transformation preceding speeded up testing and implementation of existing platforms that the UAE Ministry of Education had invested in before Covid-19 outbreak, such as virtual training, and distance learning for students (AlMarar *et al.*, 2021). Within the UAE, platforms such as Microsoft Teams, Moodle, Zoom, Skype and Blackboard were used for virtual learning during the pandemic (Al-Karaki *et al.*, 2021). In general, limited research has been conducted in the UAE on distance education. Some of them found that students in distance education enjoyed the flexibility of emergency virtual learning during Covid-19 (Almuraqab, 2020; Hussein *et al.*, 2020), while in other studies students admitted their limited use of all the tools available on online platforms, with blogs and podcasts being the most popular forms of e-learning (Marín-Díaz *et al.*, 2021). Students in the UAE have been found prone to accept e-learning if they feel motivated towards this learning type (Al-Marroof *et al.*, 2021; El-Sakran *et al.*, 2022). In terms of self-efficacy, a study on student acceptance of e-learning undertaken right before Covid-19 outbreak (Salloum *et al.*,

2019) shows that UAE students who were overall keen to seek knowledge, were also able to use virtual learning and recognize its advantages (Ridge & Erfurth, 2020).

As a means to ensure the least impact possible during the Covid 19 pandemic, the UAE government equipped teachers at government schools with specialist training to enhance virtual learning (Masoud & Bohra, 2020). With a focus on citizens' health and wellbeing, the UAE gradually transitioned from the traditional physical workplace to virtual working environments. Prior to this transition, a poll was created to determine which institutions were prepared for an instant switch to online education and which institutions needed help in the transition at a virtual conference with higher education universities and colleges to identify any potential obstacles to the transfer (Yaakub, 2020). For this reason, spring break was also moved ahead to accommodate the transition for individuals who needed assistance. Once the transition was completed, UAE educational institutions were required to undergo a ministry evaluation and student surveys to make sure that the services provided were meeting all the requirements. During the crisis, UAE universities invested in new software and training related to distance education, and new learning technologies have been diffused within higher education. Despite the lack of online educational resources in Arabic (Ashour *et al.*, 2021), UAE's large number of non-traditional university students are overall well situated to benefit from the expanded use of remote learning.

3.3. *The Case of Fiji Islands*

Developing countries represent different levels of economic development and technological infrastructure, as well as different social and cultural environments. With the pandemic of Covid-19 several obstacles concerning online learning in developing countries, like Fiji Islands, emerged (Lassoued *et al.*, 2020). For example, several students suffered from not receiving a proper training before using online learning systems (Diab & Elgahsh, 2020), and from the lack of ICT infrastructure including low bandwidth connections and Internet inaccessibility, specifically in rural and remote areas (Diab & Elgahsh, 2020; Lassoued *et al.*, 2020). Other findings indicate that, during the pandemic, the Fijian classroom was not quite ready to completely embrace educational technologies into their operations given the challenges were few but immense (Gani *et al.*, 2019). These obstacles significantly reduced the quality of distance education and affected students' motivation and participation during the online learning.

III) METHODOLOGY

1. The Process

1.1. *Design and Structure*

From an operational perspective, questionnaires were the most fitting tool for collecting statistical data that could illustrate the ‘reality’ through a relatively bias-free analysis (Rea & Parker, 1992; Hoy & Adams, 2015). The short questionnaire was available in English as this language was the *lingua franca* by the chosen student populations. All conceptual questions included were linked to the specific hypotheses as a means to control any data input errors and facilitate the data analysis. The methodological tool utilized for data collection were quantitative (questionnaire). The particular method was not chosen randomly. Embedded in the paradigm of positivism, quantitative research methods emphasize empirical inquiry to understand social phenomena. Quantitative methodologies allow researchers to evaluate responses within a more controlled context aiming to generate measurable and testable data based on the aims and objectives. Educational research employing these research methods is expected to demonstrate internal validity (accurate interpretability of research results), external validity (generalizability of research results), and reliability (consistency and replicability of the methods and results) of the findings (Leung & Shek, 2018). This survey also acted as a road map for the study, guiding the researcher to predetermined destinations, and thus gradually adding to the accumulation of knowledge based on the verification or rejection of the stated hypotheses.

The questionnaire itself, containing 13 questions in total, was divided into two sections: the first section was comprised of the demographic questions (gender, age, self-evaluation of IT skills, and prior experience with e-learning), whereas the remaining 9 questions on e-learning were raised in the second section (*see* Annex 1). More specifically, the demographic information – obtained through ‘simple’ questions – was deemed valuable in profiling study participants (Creswell, 1994). It was used to compare the sample with other groups of individuals when making inferences about answers to non-demographic questions. Thus, demographics enabled suppositions on the generalisability of the research outcomes. In addition, the demographic questions were often linked to the conceptual questions through statistical analyses, helping us compare the answers across demographic sub-groups (Presser *et al.*, 2004; Roni *et al.*, 2020).

1.2. *Sample*


Participants were recruited from the Department of Government & Society at United Arab Emirates University (UAE) and the Faculty of Law at the University of Fiji (Fiji Islands) as soon as the relevant approvals from the Research Ethics Committees of both academic institutions were received. Data were collected from undergraduate students, males and females, ranging in age from 18 to 59, who experienced a fully online learning process on a synchronous mode in both countries. As questionnaire was intended to all students registered in the above academic programmes, no randomization was needed.


1.3. *Distribution and Collection*

For the present study, students at two different education establishments simultaneously completed the exact same questionnaire during a 3-month period, from February to April 2022. The questionnaire was distributed during the spring semester in the UAE and the fall semester in Fiji Islands. It was amid the Covid-19 pandemic and almost one year after the first lockdown was established and all classes went online. Consequently, students had a reasonable exposure to the online learning experience and the lockdown to answer the questionnaire. In fact, students in Fiji Islands had a shorter experience in distance education because Covid-19 outbreaked in the country one year later than the rest of the world (in March 2021). Nonetheless, all measurements were made while students were taking classes online.

The *anonymous* questionnaire, which was drawn up using the Qualtrics^{XM} software, was sent by email together with a cover letter explaining the purpose and *voluntary* nature of the study. Students who agreed to participate in the study were able to access the survey either through a QR code or from a direct link that could not be tracked or used to identify respondents and personal information (*see* Table 1).

Table 1: QR Codes & Links

For UniFiji		https://uaeusociology.eu.qualtrics.com/jfe/form/SV_9SjEIJ5mNCq2dfM
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For UAEU		https://uaeusociology.eu.qualtrics.com/jfe/form/SV_0ivYruxPnclhZUa
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Participants had up to 3 months to complete it online and took approximately ten minutes to finish. Students were informed about the study via email messages sent by the administrator of this research and were encouraged to honestly answer all the questions according to their personal opinions. Two reminder emails (on the second and third months) were also sent to all eligible students inviting them to submit their responses. Prior to final distribution of the questionnaire, the research tool was validated to identify whether it covered all question areas / hypotheses with no conceptual omissions, and then it was tested to determine whether the questions were clear and well-formulated.

1.4. *Data Analysis*

Based on social cognitive theory, the relationships among the personal and environmental influences on student behaviour and outcomes were examined using structural equation modelling. The statistical analysis was performed on the SPSS v.22 software once data were exported from QualtricsSM. No outliers were identified, and no missing values were found either since all section of the questionnaire were mandatory. Descriptive statistics analyses (frequencies and cross-tabulations) were applied to characterize the sample supplemented by graphic illustrations (eg. charts, pies). Spearman's correlation coefficient was used to test each hypothesis on how the variables related to the online academic experience affected students' academic development and perceptions of distance education. A Chi-Square (χ^2) Test for Independence was also performed in which the measurements were taken as the independent variable and the different environmental/personal factors as dependent variables. Although the intercorrelations were calculated between all the variables of the hypotheses, the analysis was done using student satisfaction as the overall independent variable and teacher's present, academic self-efficacy, and student engagement with other students and teachers as dependent variables. In the analyses, $p < 0.05$ was considered statistically significant, and the effect size was assessed using Cohen's (1988) criteria.

Data were focused on demographic features, followed by learners' preferences, perceptions, advantages, constraints, and suggestions. The statements were prepared based on extensive review of

literature to minimize researcher’s bias. To summarize the perception, statements were rated on a five-point continuum scale (5 being most effective and 1 being the least effective). To analyze the open-ended questions conventional content analysis was performed, where content analysis was also made to identify the trends in learners’ perspective regarding online classes. Frequency and percentage were calculated for most of the questions to summarize the data. Apart from calculating the percentage table for the perceptions, a measure of consensus for each of the statements was used starting with correlation between two or more variables according to the study’s hypotheses. In terms of analysis, I also used multiple correspondence and regression analyses, including Anova tests only for the statistically significant correlations, in order to describe the pattern of relationship between (categorical and binary) variables. Such analyses were meaningful given that a prior measurement of internal consistency (*see* Table 2) provides an overall high-enough² reliability coefficient ($\alpha = .219$). Multinomial logistic regressions and tests to assess the associated factors with our dependent variables were also run. These were feasible because, within the average-sized sample ($N = 233$), the assumptions about the scale of the variables, their linear correlation, and homogeneous/normal errors were reasonable.

Table 2: Reliability Statistics³

Cronbach's Alpha (α)	N of Items
.219	30

² A reliability coefficient of .70 or higher is considered “acceptable” in most social science research situations.

³ Cronbach’s alpha (α) is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered a measure of scale reliability. Technically speaking, Cronbach’s alpha is not a statistical test – it is a coefficient of reliability (or consistency).

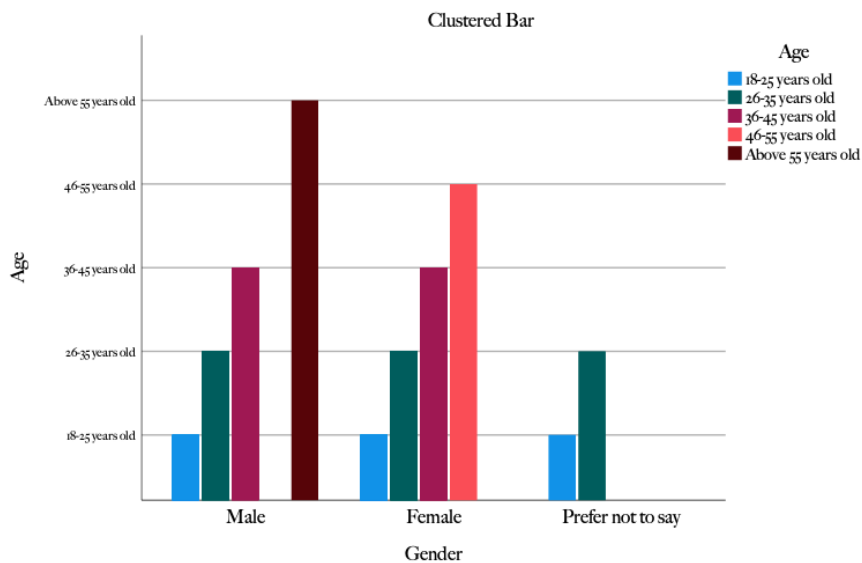
IV) DATA ANALYSIS

1. Descriptive Statistics

1.1. Demographics

The total number (N) of students who agreed to participate in the study was 233 (*see* Table 3). The descriptive analysis refers to all – both demographic and conceptual variables – of the present survey. The sample maintained a relative balance in terms of participants' location, as 123 were coming from Fiji Islands and 110 from the United Arab Emirates. The same balance was not upheld in the gender and age demographics, where the majority of respondents were females (n=138, 59.2%) aged between 18 and 25 years (n=128, 54.9%) (Figure 2). This result comes to no surprise because the survey was distributed only to the female campus of the United Arab Emirates University and mainly to undergraduate students as only the University of Fiji had a structured post-graduate (LLM) programme running during the data collection period.

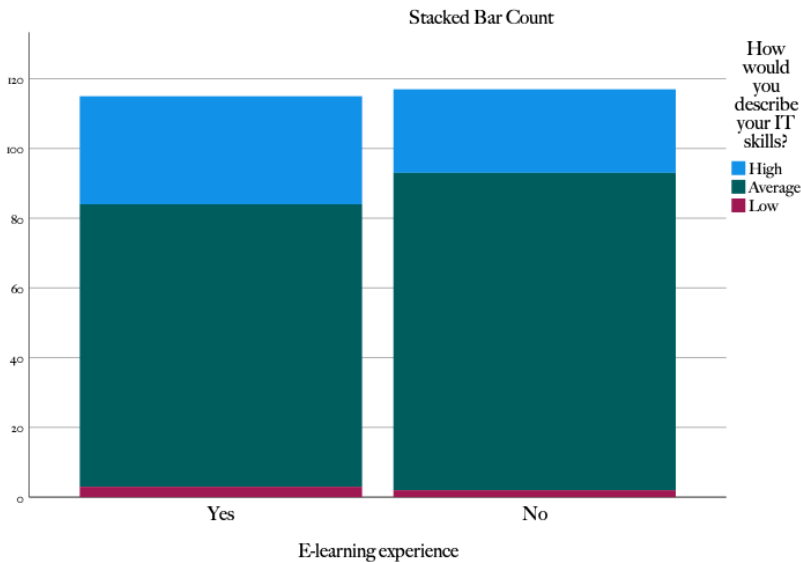
Figure 2



Moving to the IT-related demographic questions, almost 2/3 of the total number of respondents (n=172, 73.8%) described their IT skills as “Average” followed by those who described them as “High” (n=56, 24%). This result may be relevant to the fact that most students were young (below 25 years old) and the probability to be acquainted with new technologies is high. Despite the students' familiarity with new technologies and high self-declared IT skills, only half of respondents (n=115,

49.4%) had an experience with e-learning prior the pandemic, while the other half (n=117, 50.2%) firstly experienced online education as an emergency measure during the Covid-19 outbreak (Figure 3).

Figure 3



1.2. Conceptual Questions

The first conceptual question of the study sought to identify the students’ perceptions on the advantages of online education as they experienced it during Covid-19. The highest rated advantages of distance learning were the “Access to online materials” (n= 144, 61.8%), closely followed by the “Ability to record the class” (n=140, 60.1%). The particular perceptions on the positive aspects of e-learning matched the long-lived, pre-Covid-19, willingness of 1) students in Fiji Islands to enhance the access to teaching materials online due to network limitations, and 2) students in UAE to re-listen the recorded lecture at their own pace due to possible language barriers (almost all courses are taught in English at UAEU). This coincides with the following 2 highly-rated perceived advantages of online education, namely “Learning at own pace” and studying in “Comfortable surrounding”, both bearing equal number of responses (n= 130, 55.8%), and – as anticipated – followed by the “Ability to stay at home” (n= 114, 48.9%). Nonetheless, the most popular advantage refers to the teacher’s “Ability to record the class” (n= 140, 60.1%). Almost 1/3 of the participants considered “Easier or less demanding exams” (n= 89, 38.2%) as an advantage of e-learning meaning that online exams were as

rigorous as those in-person. The least popular response given by the students were the “Class interactivity” (n= 77, 33%), which reflects the ongoing struggle of distance education to maximise its efficiency in terms of student-student and teacher-student interaction (Hirashima *et al.* 2007) (Figure 4).

The second conceptual question aimed to discover the disadvantages of online education. Students’ responses were associated to the perceived advantages. The inter-related disadvantages that accumulated the highest percentage of responses were the “Technical problems related to platform” (n= 143, 61.4%) and “Poor network connectivity” (n= 134, 57.5%). In continue, the next two most popular answers, the “Reduced interaction with the teacher” (n= 98, 42.1%) and the “Lack of interaction with classmates” (n=89, 38.2%), also highlighted the importance of communication and collaboration in distance learning. Internal or external factors, like self-motivation or “Lack of self-discipline” (n= 62, 26.6%) and family encouragement or “Non-supportive learning environment at home” (n= 69, 29.6%), played a minor role in determining the perceived drawbacks of e-learning (Figure 5). In total, students had acknowledged more the advantages (n= 836, 51.3%) of online education than the disadvantages (n= 667, 40.9%).

Figure 4: Advantages of e-learning

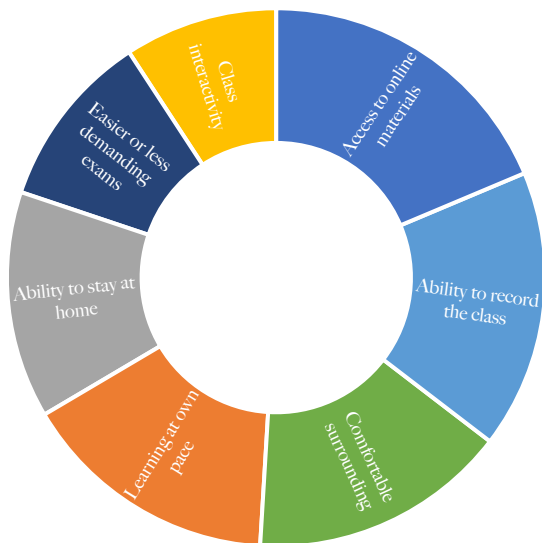
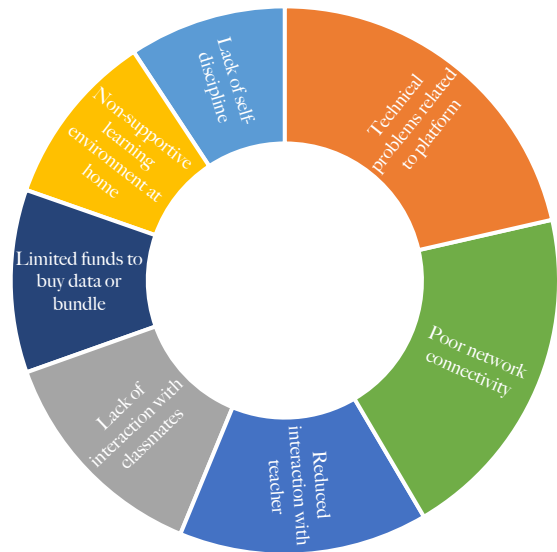


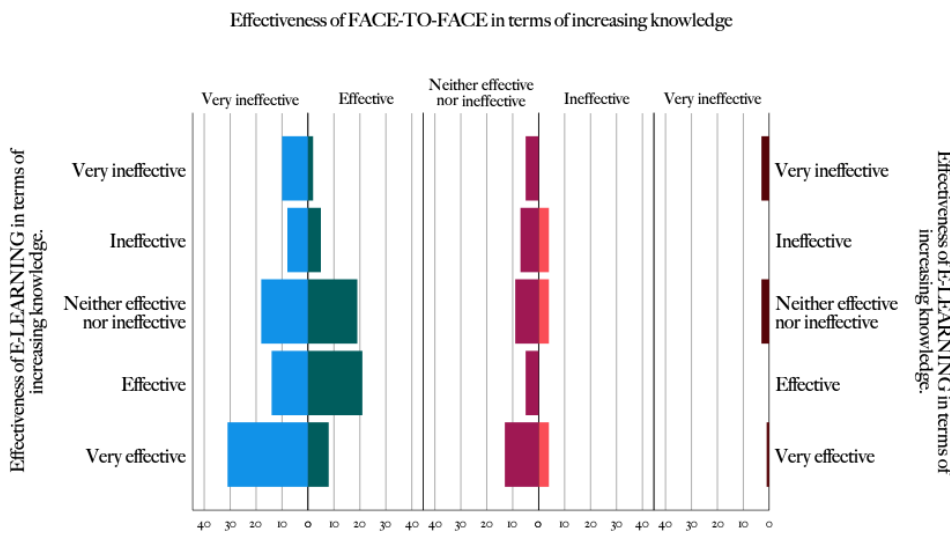
Figure 5: Disadvantages of e-learning



As far as the students’ opinions on educational achievements is concerned, almost half of the respondents admitted having higher expectations upon learning outcomes from online learning (n=

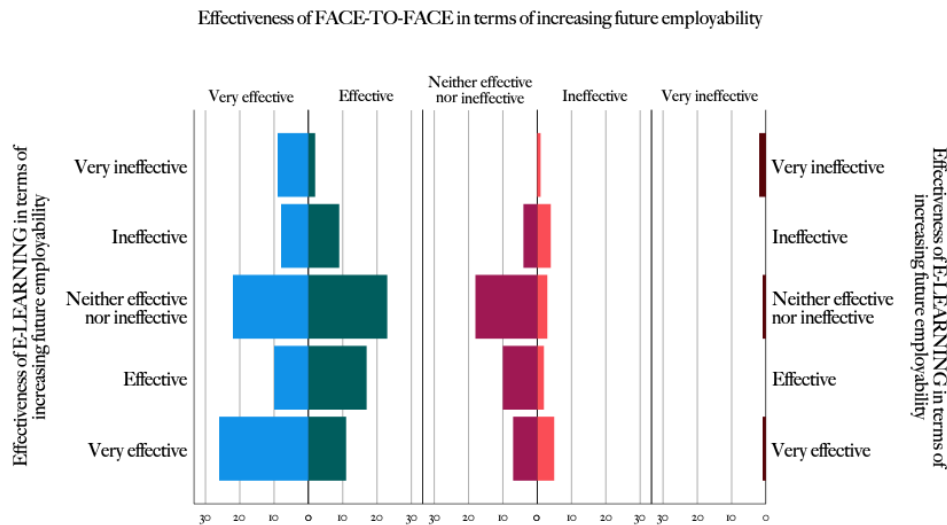
105, 45.1%), while only 35 students (15%) had lower expectations. Using a 5-point scale (1 being “Very ineffective” to 5 being “Very effective”), the rate of effectiveness of e-learning – as compared to face-to-face education – was evaluated against a variety of factors. In terms of increasing knowledge, 101 (43.4%) students found e-learning (very)effective, and 46 (19.7%) (very) ineffective, while a quarter of the respondents (n= 53, 22.7%) considered it neither effective nor ineffective. In the case of face-to-face education, 139 (59.7%) students rated it as (very)effective, only 21 (9%) as (very) ineffective, and 41 (17.6%) students described it neutrally as neither effective nor ineffective (Figure 6).

Figure 6: Face-to-face *vs* e-learning in terms of knowledge



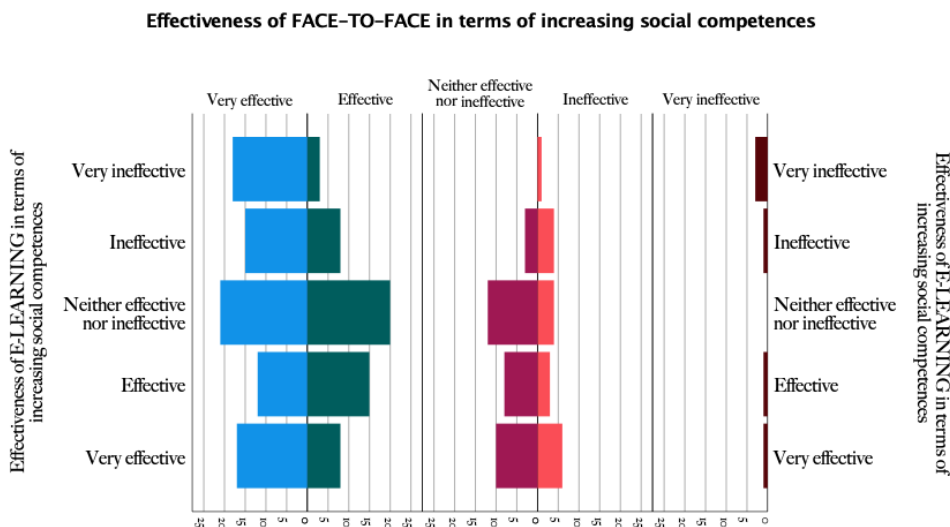
When comes to increasing future employability, 1/3 of the respondents argued that e-learning has no effect (n= 68, 29.2%) followed by those with a very positive attitude about it (n= 51, 21.9%). Few students saw little to no effect of e-learning on increasing future employability (n= 15, 6.4%), reflecting the perceived potential and advantage of distance education in securing a job upon graduation. In the same terms, the highest rating was given by the participants who claimed face-to-face delivered education to be very effective (n= 78, 33.5%) or just effective (n= 63, 27%) tantamounting together to more than half of the total number of responses received. As in the case of e-learning, the lowest rated option was that of “Very ineffective” (n= 4, 1.7%) complementing the aforementioned results. Comparing the two, though, students would still consider presential learning as more effective in increasing future employability than its e-learning counterpart (Figure 7).

Figure 7: Face-to-face *vs* e-learning in terms of future employability



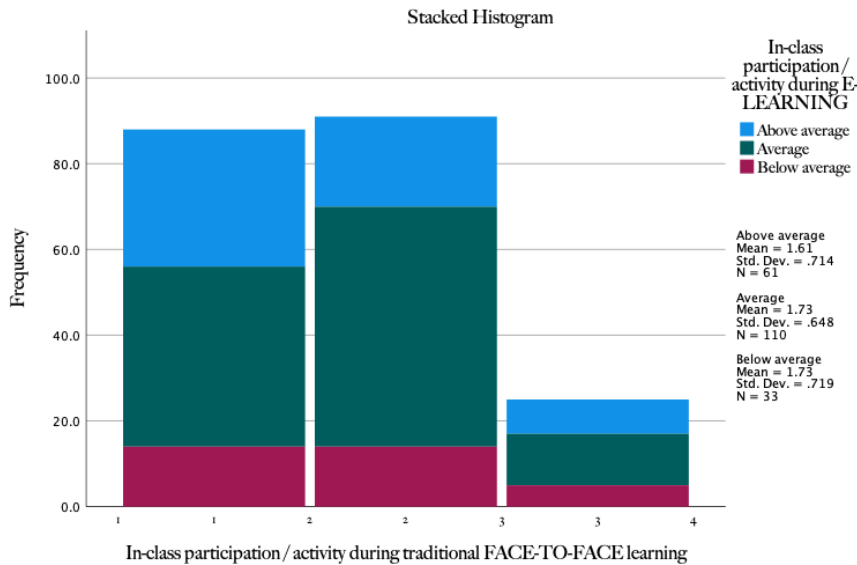
Passing onto social competence, the majority of students ($n=58, 24.9\%$) saw no effect (neither positive nor negative) of e-learning, as opposed to face-to-face education that was rated as “Very effective” by the 37.3% ($n= 87$) of the participants. The highest rated option for distant learning was the neutral one ($n= 58, 24.9\%$), meaning that these students saw no or negative [(Very) ineffective, $n= 57, 24.5\%$ jointly] impact of e-learning on social skills compared to that of presential learning ($n= 24, 10.3\%$) (Figure 8).

Figure 8: Face-to-face *vs* e-learning in terms of social skills



Both for face-to-face and e-learning, the most students described their in-class participation as “Average” (n= 92, 39.5% and n= 111, 47.6%, respectively). The results for both types of learning followed the same trend for the remaining 2 options, in which students would more describe their engagement with peers and teachers as “Above average” (n= 88, 37.8% and n=62, 26.6%, respectively) rather than “Below average” (n= 25, 10.7% and n= 33, 14.2%, respectively) (Figure 9).

Figure 9: Face-to-face vs e-learning participation



The final two questions of the survey asked how much students enjoyed e-learning classes during the pandemic and to what extent they would prefer to return to on campus activities. Although the respondents who enjoyed online education (n= 101, 43.4%) seemed to be two times higher than those who did little or not at all so (n= 55, 23.6%), the number of student who would still prefer to stay on e-learning is almost two times lower (n= 56, 24%) as opposed to those who wish to return to on-campus teaching (n= 100, 42.9%) (Figure 10).

Figure 10: Enjoying e-learning vs returning to on-campus classes

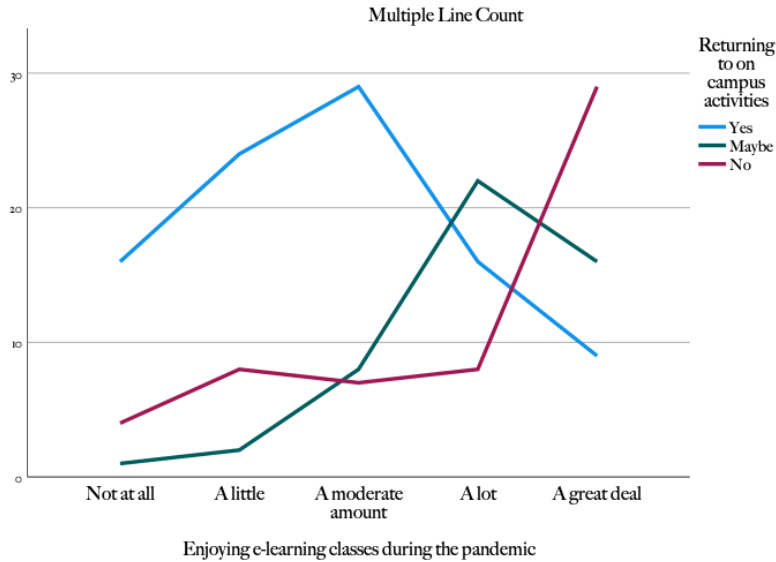


Table 3

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Location (CV)	233	1	2	1.47	.500
What is your age? (CV)	190	1	5	1.50	.815
What is your gender? (CV)	194	1	3	1.76	.483
How would you describe your IT skills? (IV)	233	1	3	1.78	.463
Have you ever participated in any type of e-learning before the pandemic? (IV)	232	1	3	1.52	.534
What are the advantages of e-learning? (IV)					
Access to online materials	163	1	2	1.12	.322
Learning your own pace	130	1	1	1.00	.000
Ability to stay at home	114	1	1	1.00	.000
Classes interactivity	77	1	1	1.00	.000
Ability to record a class	140	1	1	1.00	.000
Comfortable surrounding	130	1	1	1.00	.000
Easier / less demanding exams	89	1	1	1.00	.000
What are the disadvantages of e-learning? (IV)					
Reduced interaction with the teacher	98	1	1	1.00	.000
Technical problems related to platform	143	1	1	1.00	.000
Lack of interaction with classmates	89	1	1	1.00	.000
Non-supportive learning environment at home	69	1	1	1.00	.000
Lack of self-discipline	62	1	1	1.00	.000
Poor network connectivity	134	1	1	1.00	.000
Limited funds to buy data or bundle	72	1	1	1.00	.000
What are your expectations upon learning outcomes from online learning? (DV)	172	1	3	1.59	.808

Using a five-point scale (1= Very ineffective to 5 = Very effective), rate the effectiveness of E-LEARNING in terms of increasing knowledge (IV)	200	1	5	3.47	1.318
future employability (IV)	202	1	5	3.45	1.205
social competences (IV)	199	1	5	3.22	1.307
Using a five-point scale (1= Very ineffective to 5 = Very effective), rate the effectiveness of FACE-TO-FACE learning in terms of increasing knowledge (IV)	201	1	5	3.97	1.104
future employability (IV)	199	1	5	3.98	1.037
social competences (IV)	200	1	5	3.99	1.116
How would you describe your in-class participation / activity during E-LEARNING? (DV)	206	1	3	1.86	.667
How would you describe your in-class participation / activity during traditional FACE-TO-FACE learning? (IV)	205	1	3	1.69	.678
How much did you enjoy e-learning classes during the pandemic? (DV)	201	1	5	3.39	1.323
Would you prefer to return to on campus activities? (DV)	205	1	3	1.79	.848
Valid N (listwise)	3				

CV = Control variable / IV= Independent variable / DV = Dependent variable

Colour distribution: H1: Green / H2 = Blue / H3 = Orange / H4 = Yellow / CV-D = Purple

2. Correlations and Regressions

For the statistical analysis, all variables presented in Table 1 were divided into Independent, Dependant, and Control based on the hypotheses formulated earlier. The questions related to e-learning were examined against demographic variables were introduced for comparative and control purposes.

2.1. Hypothesis 1 – Academic self-efficacy

The first hypothesis of the present study sought to explore the relationships of students' capabilities and expectations of e-learning in terms of knowledge, motivation, and social competences. The pseudo- R^2 of the model indicated a good fit⁴ (see Table 4). The general likelihood ratio tests gave some

⁴ A McFadden's pseudo- R^2 ranging from 0.2 to 0.4 indicates good model fit. The likelihood ratio R^2 in linear regression for both Cox & Snell and Nagelkerke varies between 0 and 1 where any result around the average would indicate a good model fit.

statistically significant⁵ relationships between our dependent and independent variables; aka those between students' expectation upon e-learning and its perceived effectiveness in terms of knowledge ($\chi^2 = .002$) and social competences ($\chi^2 = .048$) only (see Table 5).

Table 4

Pseudo R-Square	
Cox and Snell	.443
Nagelkerke	.523
McFadden	.312

Table 5

Effect	Likelihood Ratio Tests			
	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Location	176.334	2.079	2	.354
What is your age?	175.800	1.545	2	.462
What is your gender?	178.541	4.286	2	.117
Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of E-LEARNING in terms of increasing				
knowledge	198.066	23.811	8	.002
future employability	179.830	5.575	8	.695
social competences	189.861	15.605	8	.048

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

More specifically, students who had higher expectation upon learning outcomes of e-learning 5 times more likely to rate its effectiveness as ineffective ($p = .001$) or very ineffective ($p = .009$) and almost 3 times more likely to rate it as “neither effective nor ineffective” ($p = .014$) compared to those who had lower expectations. Although the above likelihood ratio test gave a marginally significant relationship ($p = .048$) between participants' expectations on e-learning and its effectiveness in terms of social competences, no such relationship was maintained in the parameter estimates (Table 6 in Annex II). Neither demographic variables were found correlated with the dependent variable according to the multivariate logistic tests. Only for the statistically significant relationships, a one-way analysis of variance (ANOVA) test was run to gain deeper information about the relationship between the dependent and independent variable. The one-way ANOVA co-efficient ($F = 18.720$)⁶ evaluated

⁵ A statistically significant relationship is defined by a chi-square (p) of less than .05.

⁶ The higher than 1 the F value, the better the model.

the impact of a sole factor (students' expectations) on a sole response variable (effectiveness on knowledge) (*see* Table 7).

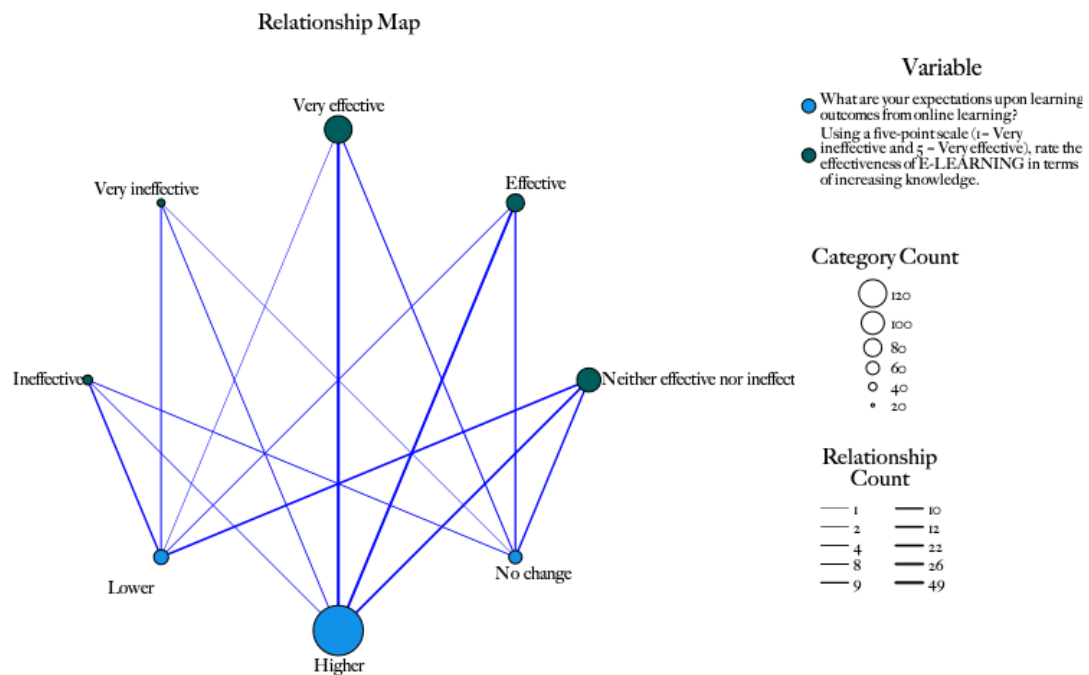
Table 7

ANOVA						
What are your expectations upon learning outcomes from online learning?	Sum of Squares	df	Mean Square	F	Sig.	Bayes Factor ^a
Between Groups	33.629	4	8.407	18.720	<.001	2089697486.783
Within Groups	73.205	163	.449			
Total	106.833	167				

a. Bayes factor: JZS

The result gave a low variance, which allowed a better prediction of information about the student population. As students' opinions on e-learning and knowledge-increase were moving from 1 (Very ineffective) to 5 (Very effective), their expectations were also changing from 1 (Lower) to 3 (Higher) (Figure 11).

Figure 11



2.2. *Hypothesis 2 – Student Engagement*

The second hypothesis explored any relationship between student engagement and IT skill levels or any prior experience with e-learning. The pseudo-R² of the model also indicated a good fit⁷ (see Table 8), which allowed us to proceed to the statistical analysis. Initially looking at the likelihood ratio test, no statistically significant correlation was found among our dependent and independent variables. This result was mostly verified by the parameter estimates (see Table 10 in Annex II). This means that student expectation about e-learning was, generally, not influenced by their IT skills or experience with online educational platforms in the past. Yet, the parameter estimates revealed that participants who described their IT skills as “Above average” are 16 times more likely to also describe their student engagement as such (“Above average”). Location appeared to have a significant relationship with students’ descriptions of their participation and activity in online classes during the pandemic ($p = .008$).

Table 8
Pseudo R-Square

Cox and Snell	.113
Nagelkerke	.132
McFadden	.062

Table 9

Effect	Likelihood Ratio Tests			
	Model Fitting	Likelihood Ratio Tests		
	Criteria	Chi-Square	df	Sig.
	-2 Log Likelihood of Reduced Model			
Location	154.972	9.677	2	.008
What is your age?	145.432	.138	2	.933
What is your gender?	146.412	1.117	2	.572
How would you describe your IT skills?	149.388	4.093	4	.394
Have you ever participated in any type of e-learning before the pandemic?	146.327	1.032	2	.597

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

As shown in the ANOVA test ($F = 16.925^8$) run for the statistically significant correlations (Table 11) and depicted in the box-plot below (Figure 12), students in both United Arab Emirates and Fiji Islands

⁷ See Footnote 4

⁸ See Footnote 6

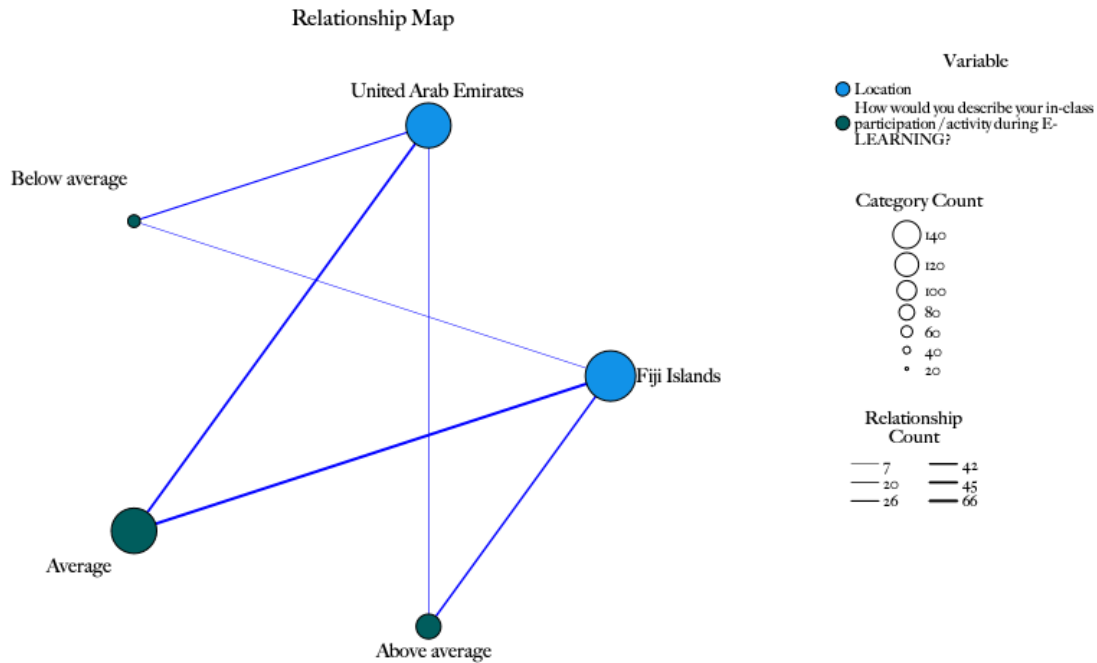
tended to describe their in-class activity as “Average”. Students at UniFiji, though, were more inclined to give the “Above average” response to rate their participation compared to their UAEU counterparts who saw a below average engagement with teacher and classmates.

Table 11

ANOVA						
How would you describe your in-class participation / activity during E-LEARNING?	Sum of Squares	df	Mean Square	F	Sig.	Bayes Factor ^a
Between Groups	6.965	1	6.965	16.925	<.001	180.814
Within Groups	83.952	204	.412			
Total	90.917	205				

a. Bayes factor: JZS

Figure 12



2.3. Hypothesis 3 – Environmental Factor

The third hypothesis of this study focused on the possible relationship between teachers’ (physical) presence, students’ participation, and perceived effectiveness of teaching and learning. As in the previous 2 hypotheses, the pseudo-R² of the model also indicated a good fit⁹ (see Table 12). The

⁹ See Footnote 4

associated likelihood ratio provided a number of statistically significant correlations between our independent, dependent, and control variables (*see* Table 13). More in detail, students' willingness to return to on-campus activities was influenced by their perceptions of effectiveness of face-to-face teaching and teachers' presence in terms of increasing knowledge ($p = .013$) and social competences ($p = .039$). According to participants, the importance of teachers' presence through their desire to return to campus plays a mediocre role in relation to increasing knowledge, as it was 2.8 times more likely to be described it as "Neither effective nor ineffective" than for students who would prefer not to return to campus ($p = .007$). The respondents who would rate the efficiency of teachers' presence in the face of face-to-face teaching and learning – as far as social competences are concerned – were 3.8 and 2.5 times more likely to describe it as ineffective compared to students who definitely preferred ($p = .006$) or were unsure ($p = .026$) about online education. Following the same pattern, student who rated presential education as "Effective" were and 1.8 times more eager to return to campus ($p = .005$) in contrast to those who were not enthusiastic to do so (*see* Table 14 in Annex II).

Table 12
Pseudo R-Square

Cox and Snell	.428
Nagelkerke	.491
McFadden	.272

Table 13

Effect	Likelihood Ratio Tests			
	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests Chi-Square	df	Sig.
Location	216.728	8.506	2	.014
What is your age?	209.849	1.628	2	.443
What is your gender?	208.688	.467	2	.792
Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing knowledge	227.505	19.283	8	.013
future employability	215.388	7.166	8	.519
social competences	224.442	16.220	8	.039
How would you describe your in-class participation / activity during traditional FACE-TO-FACE learning?	229.065	20.843	4	<.001

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

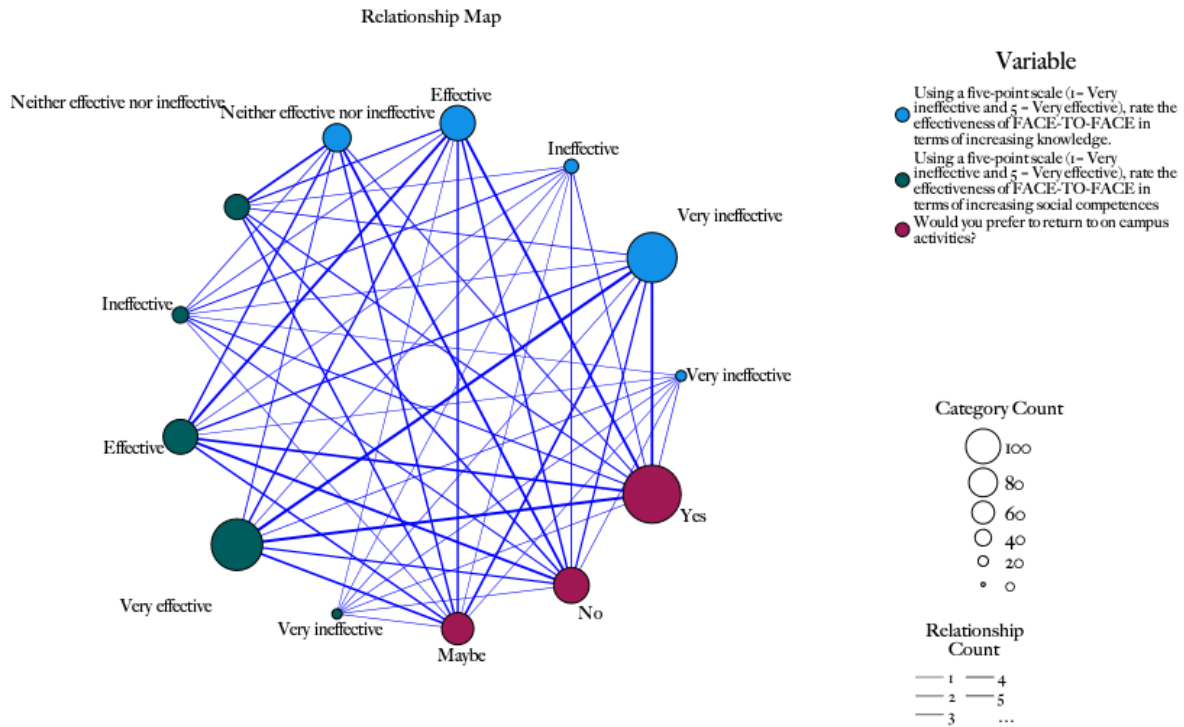
Taking a more in-depth look of the significant relationship between our variables the Bayesian statistics shed a light. Starting with location, the one-way ANOVA test, in fact, showed no significant correlation with our dependent variable (“Return to campus”) ($p = .958$) and low co-efficient ($F = .003$), which means that students’ responses were not influenced by the location of their campus (Table 15). The relationship map depicts the aforementioned significant relationships, where most students would opt to return to campus, rating the efficacy of face-to-face education and the importance of teachers’ presence as “Very efficient” in terms of increasing knowledge ($F = 9.0506$) and social competences ($F = 7.124$). The second most popular set of answers illustrated students with no eagerness for on-campus activities who would describe the effectiveness of presential teaching as “Effective” in increasing both knowledge and social skills. The least often-given answers were marked by respondents who were undecided as to whether classes should resume on campus defining online education as neither effective nor ineffective against the relevant criteria (Figure 13).

Table 15

Would you prefer to return to on campus activities?	ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.	Bayes Factor ^a
Location						
Between Groups	.002	1	.002	.003	.958	.056
Within Groups	146.554	203	.722			
Total	146.556	204				
Effectiveness of FACE-TO-FACE in terms of increasing knowledge.						
Between Groups	23.552	4	5.888	9.506	<.001	2339.839
Within Groups	120.157	194	.619			
Total	143.709	198				
Effectiveness of FACE-TO-FACE in terms of increasing social competences.						
Between Groups	18.296	4	4.574	7.124	<.001	40.873
Within Groups	123.926	193	.642			
Total	142.222	197				

a. Bayes factor: JZS

Figure 13



2.4. Hypothesis 4 – Overall Satisfaction

The fourth and last hypothesis of the present empirical research meant to assess the overall student' experience of e-learning based on its perceived advantages and disadvantages¹⁰. As shown in Tables 16 i and ii, both pseudo R-square tests indicated a good fit allowing to proceed further to the multinomial regressions. Glancing at the likelihood ratio tests (Table 17), various independent and control variables produced statistically significant relationships with our dependent variable (Overall satisfaction). Location was a significant parameter for both perceived advantages and disadvantages ($p = .042$ and $p = .039$, respectively), while age was only for advantages ($p = .022$) and gender appeared as marginally insignificant for disadvantages ($p = .050$). In terms of students' perceptions, class interactivity was the mere positive influencing estimate ($p = .021$), while lack of interaction with classmates ($p = .010$) and non-supportive learning environments at home ($p = .036$) were the negative ones.

Delving into the multinomial regressions, students who little enjoyed e-learning were 1.6 times less likely to acknowledge the advantage of learning at own pace than students who enjoyed online

¹⁰ The independent variables (advantages and disadvantages of online education) were examined separately due to SPSS restrictions in number of variables used per test.

education a great deal ($p = .030$) (see Table 18 in Annex II). Disadvantages, though, were more significantly correlated to students' overall satisfaction. Students who did not enjoy e-learning at all were 2.5 times more likely to do so due to lack of interaction with classmates ($p = .040$) and 1.9 times due to lack of self-discipline ($p = .042$) compared to their counterparts who fully enjoyed online education. 1.9 times more likely to have enjoyed e-learning a little were also these students who highlighted the lack of interaction with classmates ($p = .023$). In addition, students who pointed the reduced interaction with the teacher as a disadvantage of e-learning were 1.2 times more eager to have moderately enjoyed e-learning than those who fully did so ($p = .027$). Similarly, non-supportive learning environment at home was an influential parameter that spanned within all 3 in-between categories. Respondents who were living in a non-supportive learning environment at home were 2.2, 1.7 and 1.4 times more prone to have enjoyed distance education a little ($p = .017$), moderately ($p = .016$), or a lot ($p = .048$) respectively compared to students who were fully satisfied with their e-learning experience.

Tables 16 (i & ii)

i. Advantages of e-Learning

Pseudo R-Square	
Cox and Snell	.408
Nagelkerke	.430
McFadden	.177

ii. Disadvantages of e-Learning

Pseudo R-Square	
Cox and Snell	.445
Nagelkerke	.469
McFadden	.199

Table 17

Effect	Likelihood Ratio Tests			
	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests Chi-Square	df	Sig.
Location	365.042	9.925	4	.042
What is your age?	366.517	11.400	4	.022
What is your gender?	363.430	8.313	4	.081
What are the <i>advantages</i> of e-learning? (Pick all that you consider true)				
Access to online materials	361.895	6.779	4	.148
Learning your own pace	361.573	6.456	4	.168
Ability to stay at home	356.930	1.813	4	.770
Classes interactivity	366.700	11.583	4	.021
Ability to record a class	356.946	1.829	4	.767
Comfortable surrounding	358.320	3.203	4	.524
Easier / less demanding exams	357.982	2.865	4	.581
Location	337.609	10.193	4	.037
What is your age?	336.081	8.665	4	.070
What is your gender?	336.912	9.496	4	.050

What are the <i>disadvantages</i> of e-learning? (Pick all that you consider true)				
Reduced interaction with the teacher	334.678	7.262	4	.123
Technical problems related to platform	329.263	1.847	4	.764
Lack of interaction with classmates	340.780	13.364	4	.010
Non-supportive learning environment at home	337.714	10.298	4	.036
Lack of self-discipline	333.989	6.573	4	.160
Poor network connectivity	328.594	1.177	4	.882
Limited funds to buy data or bundle	330.197	2.780	4	.595

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

As a final step of the statistical analysis, ANOVA tests were also performed for the significant correlations (Table 20). The strongest relationship among our dependent and independent variables (with the highest co-efficient) was observed among the perceived lack of interaction with classmates and their enjoyment of e-learning during the pandemic ($F= 46.672$); while the lowest co-efficient was for the demographic-control variable of “Age” ($F= 2.955$). Intending to simplify the statistically significant correlations, a relationship map was created to portray these inter-relations (Figure 14). The majority of respondents were 18-25 years old, living in Fiji Islands, who were fully satisfied with online education but identified the reduced interaction with the teacher as the most frequent disadvantage. The second most prevalent set of correlations was observed among participants 26-35 years old, living in United Arab Emirates, who moderately enjoyed e-learning during the pandemic, also recognizing the lack of interaction as a key disadvantage, but this time with their classmates.

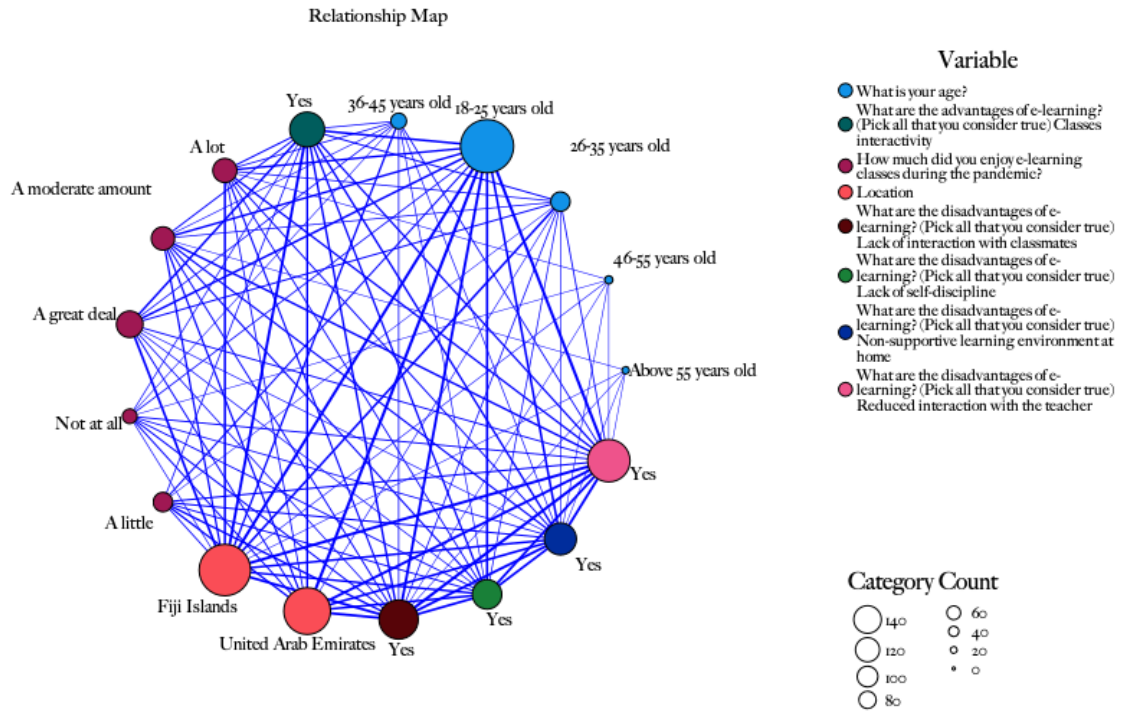
Table 20

How much did you enjoy e-learning classes during the pandemic?	ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.	Bayes Factor ^a
Location						
Between Groups	51.059	1	51.059	33.995	<.001	339462.440
Within Groups	298.891	199	1.502			
Total	349.950	200				
Age						
Between Groups	17.062	4	4.266	2.955	.022	.029
Within Groups	236.713	164	1.443			
Total	253.775	168				
Advantage: Learning your own pace						
Between Groups	31.491	1	31.491	19.678	<.001	636.051
Within Groups	318.460	199	1.600			
Total	349.950	200				
Disadvantage: Reduced interaction with the teacher						
Between Groups	18.680	1	18.680	11.221	<.001	12.805
Within Groups	331.270	199	1.665			

Total	349.950	200				
Disadvantage: Lack of interaction with classmates						
Between Groups	66.483	1	66.483	46.672	<.001	64444471.913
Within Groups	283.468	199	1.424			
Total	349.950	200				
Disadvantage: Non-supportive learning environment at home						
Between Groups	32.055	1	32.055	20.066	<.001	758.278
Within Groups	317.895	199	1.597			
Total	349.950	200				
Disadvantage: Lack of self-discipline						
Between Groups	27.680	1	27.680	17.092	<.001	195.852
Within Groups	322.270	199	1.619			
Total	349.950	200				

a. Bayes factor: JZS

Figure 14



V) CONCLUSIONS

This study investigated the perceptions of higher education students in United Arab Emirates and Fiji Islands with regard to their engagement and satisfaction with their online learning experience during the COVID-19 lockdown. Based on SCT, the study examined the influence of students' academic self-efficacy, as well as teaching presence, on their engagement and satisfaction with online learning. In other words, this study investigated the impact of students' personal factors and the online learning environment, especially about the usefulness of online learning systems. The findings exposed the significant role played by the students' behavioural and emotional engagement and its contribution in supporting student satisfaction outcomes. Furthermore, they illustrated how online students' behaviour can be modelled by considering their personal and environmental influences.

Concentrating on the correlations and regressions, statistically significant results were able to draw valuable conclusions. The thorough analysis performed against the 4 indicated hypotheses. It showed that students with low expectations of e-learning were more likely to describe it as (very) effective compared to those with high expectations. Hence, students' expectations and e-learning's effectiveness were counter-related no matter the age, gender, or location of the participants. The same expectations were irrelevant to students' IT skills or prior experience with online education. As expected, students with "above average" IT skills were the mostly engaged with teacher or peers and active participants in online classes during the Covid-19 pandemic. Here, location of education establishment played a role in respondents' activity and participation, where predominantly Fijian students had average or below average IT skills and no prior experience with distance education; a fact that coincides with the developing nature of the island nation and its limited or uniform accessibility and connectivity to internet.

In continue, students' willingness to return to on-campus activities was influenced by the teachers' presence in increasing knowledge and social competences, like social, emotional, and behavioural skills. As anticipated, respondents who evaluated high the importance of teachers' presence in education describing face-to-face delivered education as very efficient, were also the most eager to return to traditional teaching. This result was related to phenomena like lack of interaction with classmates, and non-supportive learning environments at home. Students on both campuses who did not enjoy e-learning were also unable to acknowledge the advantages of it, like learning at own pace, mainly due to personal reasons, like lack of self-discipline. Home setting was, indeed, an influential

factor because respondents living and studying in non-supportive environments were the least satisfied with their e-learning experience. Overall, young (18-25 years old) students living in Fiji Islands were found to be the most satisfied with online education, despite any perceptions of reduced interaction with the teacher. This group was seconded by slightly older students (26-35 years) frequenting the UAEU, who seemed to have enjoyed e-learning moderately due to limited interaction with their classmates.

1. Limitations

No empirical research is free of limitations. Following this norm, the present study is no exception bearing a few limitations related to the methodology and theory alike.

As far as Social Cognitive Theory (SCT) is concerned, it should be noted that SCT assumes that changes in the environment will automatically lead to changes in the person, when this may not always be true. It is based solely on the interplay between person, behaviour, and environment, but it is unclear to what extent these factors influence actual behaviour (Cervone & Pervin, 2022). The theory heavily focuses on processes of learning and in doing so disregards biological and hormonal predispositions that may influence behaviours, regardless of experience and expectations (Hagger *et al.* 2020). Therefore, the theory does not focus on emotion or motivation, other than through reference to experience (Douchense *et al.*, 2021). Overall, there is minimal attention on these factors, which means that the applicability of all the constructs of SCT to one social (online education) and public health (Covid-19) problem may be difficult.

Furthermore, the study was conducted during an exceptional public health crisis, so it is not easily replicable. The results of this study were influenced by the actions to face the Covid-19 pandemic taken by both the Ministries of Health and the academic institutions in which the study was carried out. The measures adopted by the different countries and universities have differed; and these differences may make the results of this study difficult to extrapolate to other countries, universities, or academic departments. For this reason, while it is expected that some of the results may be valuable beyond the pandemic, it will be necessary to validate their applicability in different contexts.

Participants of this research were recruited from the Law and Social Sciences faculties, so the lack of random sampling and the representation of a student population limited to certain academic degrees

seem to be another limitation in generalizing the results to all curricula. Also, the academic experience of first-year students who began their studies in a pandemic situation may be different from those students from second, third and fourth year. Yet, this research collected evidence from two very diverse nations in which the impact of the Covid-19 pandemic had not been the same. Also, the study sample included only students and not teachers, whose perspectives regarding the switch to online learning in an emergency would be valuable and should be explored in future studies.

Regarding the instrument used in the research, a limitation is that we created a new questionnaire for this study. Although the questions are based on previous studies, no similar questionnaire exists in the literature that incorporates all the measurements. Luckily, the reliability value of the scale was high enough to validate the results (Cronbach's $\alpha = 0.219$). As the study was conducted using a questionnaire, the results studied are based on students' perceptions. However, perceptions are highly subjective and do not always match reality. The target, though, was to gather and analyse overall students' opinion towards the online learning experience, which was achieved.

Another consideration when choosing the design was that most the questions in the online survey were closed, such as "yes"/"no" or Likert scale responses. Such a design makes it easy to rate the answers and standardize the results, but the answers are restricted. The participants may experience that none of the answers fit their opinions, hence an open-ended option was provided to all such questions to bridge this interpretation gap. Using the Likert scale, some people tend to respond either to the extreme ends of the scale, or to the middle of the scale, or simply give socially acceptable answers. This so-called "social desirability bias" should always be taken into consideration when interpreting the results.

Methodology-wise, this study bears additional limitations that present the need for future research. First, the study data were collected from two higher education institutions (one in a developing country and one in a developed), which makes its findings difficult to generalise. Therefore, further research to investigate the engagement and satisfaction of online students at different public and private universities, as well as at universities in another countries – outside Middle East and Pacific regions – is necessary. Second, the cross-sectional survey method was used in this study, which means that self-reported measures were used to capture student perceptions. For more representative and reliable results, future studies should employ longitudinal and/or qualitative research designs to uncover a

better understanding of each engagement dimension and student satisfaction levels. Finally, the current study only concentrated on particular hypotheses (student engagement – teaching efficacy – environmental factors) and their impact on student satisfaction. Hence, further research is needed to examine the impact of online teaching and learning on student engagement, academic achievement or performance, as well as learning persistence and retention. Despite these limitations the results of this study still offer valuable information on the academic and emotional effects that online learning during the Covid-19 pandemic had on UAEU and UniFiji student population.

2. Final Thoughts

This study provides a theoretical and empirical contribution that will help researchers to better understand the factors that influence the overall satisfaction of online students in higher education in both developed and developing countries. Such contribution will also help the higher education institutions formulate plans for continuing with online learning as a part of their future educational process.

Universities need to better plan for online or blended learning environments by combining digital tools with traditional teaching methods to enhance interactive learning. To a variant extent, Covid-19 has made it possible for universities to deliver the same material using digital tools. For this, universities need to better customise curricula and course delivery for online delivery and develop more creative assessment tools. Therefore, with the gradual increase in accessible knowledge, instructors are required to bring with them added value to the teaching process. This is a complicated requirement that compels instructors to relinquish traditional teaching patterns. Planning a course in this method requires extensive forethought, time, and effort, compared to designing a course following the traditional method. To promote such added-value teaching, the academic system needs a model that recognizes, appreciates, and compensates faculty for the efforts they invest in learning-centered teaching, and one that will incentivize instructors to devote time and energy to developing, revising, and improving their teaching practice to develop these aspects in their work. Such a model also serves the existential interests of the institutions of higher education, in their role as entities that also responsible for properly training future generations, in an era when traditional teaching methods being no longer sufficient, attractive, or meeting the needs and wishes of potential students for shaping their personal and professional future, in light of the paradigmatic changes in knowledge acquisition.

Consequently, it is vital that new technologies are implemented to provide seamless education to those students during this Covid-19 pandemic time. The virtual classroom has been shown to afford creativity and provide a flexible learning environment for many students in higher education. It can play a part in increasing achievement as well as engaging students. However, there is a need for learning communities within the virtual classroom situation to allow students to interact and learn from one another. Instructors and those who design virtual classroom courses need to lead and design these modules to maximise the use of the virtual classroom and minimise the disadvantages such as lack of face-to-face communication and immediate feedback from the professor, external distractions, poor network connectivity (Fade & Vu, 2014), and isolation (Gillet-Swan, 2017).

Based on the results drawn from the present study, some students still have a negative opinion about the online learning program and evaluation methods, seeing it as ineffective and lacking in effectiveness and interactions as in previous studies (*see* Aboud, 2021¹¹). If students are to be encouraged to take part in classes and achieve their full potential, it is crucial that all stakeholders strive for student-centred programs when developing and implementing programs for them that encourage active participation with challenging and intellectually stimulating content that meets the needs of learners. Since online student engagement is threefold and modelled by different learning components, including the students themselves, their online course instructors, and the supportive learning systems (El-Sayad, 2021), academic self-efficacy could have a significant positive effect on behavioural and emotional engagement implying that increasing students' confidence in their academic competence could contribute to heightening their participation in online learning activities and their positive attitudes towards the online learning environment.

In conclusion, according to the students' responses to this survey study, online learning (in our case, synchronous) seems to be a promising option that would suit learners of different learning styles. In post-pandemic classrooms, blended learning would probably be a better approach that would facilitate the integration of technology into the educational process enjoying the best of both worlds. Despite the sudden transfer to online education amid the Covid-19 pandemic caught us largely unprepared and caused considerable disruption, this experience can be viewed as an opportunity to explore new

¹¹ A study conducted in a country with similar cultural, religious, economic, and societal background to UAE (Saudi Arabia).

virtual resources or activities and discover novel ways of transmitting knowledge and delivering instruction in and out of classroom. The shift to online or blended/hybrid education has been a much-needed stepping-stone for constant professional development and life-long learning. I have personally observed students who are completely transformed from passive to very active participants by the advantages of online education, especially in places where, culturally, students are brought up to accept whatever their teachers transmit to them.

But online education does not succeed easily, especially in larger societies and educational institutions. It will be interesting to observe and follow the development of e-learning projects in under-researched countries – either developed or developing – in the years to come. Yet, it should be kept in mind that technology by itself cannot make the difference. Technology is not nearly as important as pedagogy (Al-Fadhli, 2022); it is only an add-value to the learning process where pedagogy remains the main success factor (Phipps & Merisotis, 1999: 31).

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ANNEX I

Students' Perceptions of Online Teaching and Learning during Covid-19 in UAE and Fiji

Start of Block: Demographics

Q1 What is your age?

- 18-25 years old (1)
 - 26-35 years old (2)
 - 36-45 years old (3)
 - 46-55 years old (4)
 - Above 55 years old (5)
-

Q2 What is your gender?

- Male (1)
 - Female (2)
 - Prefer not to say (3)
-

Q3 How would you describe your IT skills?

- High (1)
 - Average (2)
 - Low (3)
-

Q4 Have you ever participated in any type of e-learning before the pandemic?

- Yes (1)
- No (2)

End of Block: Demographics

Start of Block: Conceptual Questions

Q5 What are the advantages of e-learning? (Pick all that you consider true)

- Access to online materials (1)
 - Learning your own pace (2)
 - Ability to stay at home (3)
 - Classes interactivity (4)
 - Ability to record a class (5)
 - Comfortable surrounding (6)
 - Easier / less demanding exams (7)
-

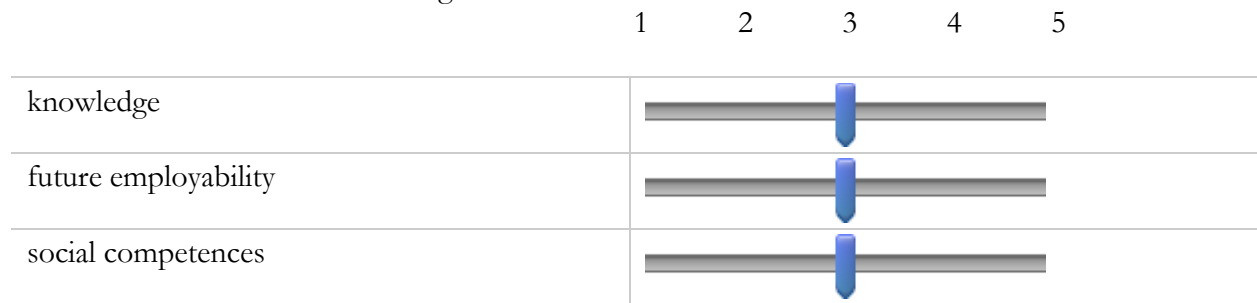
Q6 What are the disadvantages of e-learning? (Pick all that you consider true)

- Reduced interaction with the teacher (1)
 - Technical problems related to platform (2)
 - Lack of interaction with classmates (3)
 - Non-supportive learning environment at home (4)
 - Lack of self-discipline (5)
 - Poor network connectivity (6)
 - Limited funds to buy data or bundle (7)
-

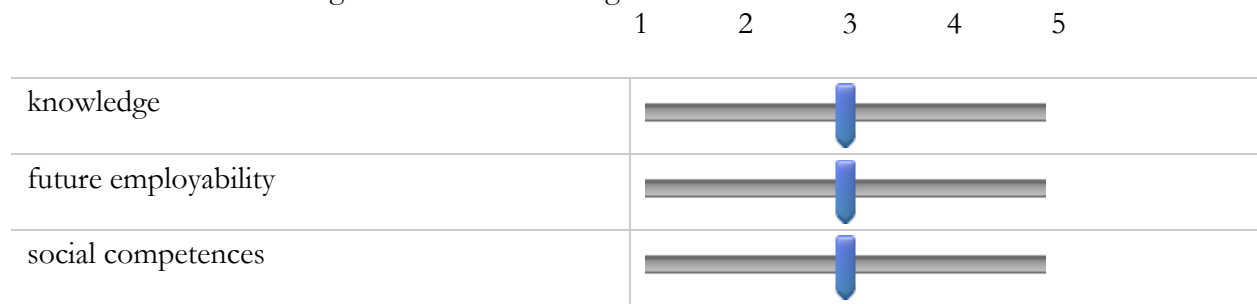
Q7 What are your expectations upon learning outcomes from online learning?

- Higher (1)
- No change (2)
- Lower (3)
- I don't know (4)

Q8 Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of E-LEARNING in terms of increasing...



Q9 Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE learning in terms of increasing...



Q10 How would you describe your in-class participation / activity during E-LEARNING?

- Above average (1)
 - Average (2)
 - Below average (3)
-

Q11 How would you describe your in-class participation / activity during traditional FACE-TO-FACE learning?

- Above average (1)
 - Average (2)
 - Below average (3)
-

Q12 How much did you enjoy e-learning classes during the pandemic?

Not at all	A little	A moderate amount	A lot	A great deal
1	2	3	4	5

Click to write Choice



Q13 Would you prefer to return to on-campus activities?

- Yes (1)
- Maybe (2)
- No (3)

End of Block: Conceptual Questions

ANNEX II

Table 6

		Parameter Estimates						95% Confidence Interval for Exp(B)	
What are your expectations upon learning outcomes from online learning? ^a		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Higher	Location	-.885	.682	1.685	1	.194	.413	.108	1.571
	What is your age?	.553	.474	1.361	1	.243	1.738	.687	4.397
	What is your gender?	1.305	.673	3.757	1	.053	3.689	.986	13.809
	Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing								
	knowledge= 1	-5.025	1.933	6.762	1	.009	.007	.000	.290
	knowledge= 2	-5.006	1.534	10.647	1	.001	.007	.000	.135
	knowledge= 3	-2.981	1.213	6.039	1	.014	.051	.005	.547
	knowledge= 4	-1.456	1.340	1.180	1	.277	.233	.017	3.223
	Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing								
	future employability= 1	-1.462	1.757	.693	1	.405	.232	.007	7.249
	future employability= 2	-1.053	1.216	.750	1	.387	.349	.032	3.782
	future employability= 3	-.961	1.217	.624	1	.430	.382	.035	4.154
	future employability= 4	.017	1.379	.000	1	.990	1.017	.068	15.158
	Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing								
	social competences= 1	.581	1.480	.154	1	.695	1.788	.098	32.531
	social competences= 2	-.821	1.303	.397	1	.529	.440	.034	5.658
social competences= 3	.317	1.156	.075	1	.784	1.373	.142	13.250	
social competences= 4	.738	1.261	.342	1	.559	2.091	.177	24.774	
No change	Location	-.316	.711	.197	1	.657	.729	.181	2.941
	What is your age?	.494	.485	1.037	1	.308	1.639	.633	4.243
	What is your gender?	.699	.680	1.054	1	.305	2.011	.530	7.628
	Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing								
	knowledge= 1	-22.457	.000	.	1	.	1.767E-10	1.767E-10	1.767E-10
	knowledge= 2	-2.425	1.441	2.834	1	.092	.088	.005	1.489
knowledge= 3	-2.259	1.295	3.044	1	.081	.104	.008	1.322	
knowledge= 4	-.772	1.415	.298	1	.585	.462	.029	7.398	

Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing									
future employability= 1	-19.947	9307.548	.000	1	.998	2.174E-9	.000	.b	
future employability= 2	-1.875	1.325	2.001	1	.157	.153	.011	2.060	
future employability= 3	-1.616	1.282	1.590	1	.207	.199	.016	2.450	
future employability= 4	.189	1.447	.017	1	.896	1.208	.071	20.619	
Using a five-point scale (1= Very ineffective and 5 = Very effective / ref.cat.), rate the effectiveness of E-LEARNING in terms of increasing									
social competences= 1	1.158	1.605	.520	1	.471	3.183	.137	74.008	
social competences= 2	1.734	1.362	1.622	1	.203	5.665	.393	81.735	
social competences= 3	1.091	1.277	.730	1	.393	2.978	.244	36.417	
social competences= 4	.021	1.414	.000	1	.988	1.022	.064	16.336	

a. The reference category is: Lower.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

Table 10

		Parameter Estimates					95% Confidence Interval for Exp(B)			
How would you describe your in-class participation / activity during E-LEARNING? ^a		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound	
Above average	Location	-1.778	.651	7.472	1	.006	.169	.047	.605	
	What is your age?	.060	.468	.016	1	.899	1.061	.424	2.658	
	What is your gender?	-.520	.583	.798	1	.372	.594	.190	1.862	
How would you describe your IT skills? (ref.cat. "Below Average")										
	Above average	16.420	.576	811.690	1	<.001	13519813.842	4369180.746	4183515.7878	
	Average	16.301	.000	.	1	.	12008391.235	12008391.235	12008391.235	
Have your ever participated in any type of e-learning before the pandemic? (Ref.cat. "No")										
	Yes	.384	.531	.524	1	.469	1.469	.519	4.159	
Average	Location	-1.651	.617	7.168	1	.007	.192	.057	.643	
	What is your age?	.123	.455	.074	1	.786	1.131	.464	2.761	
	What is your gender?	-.224	.553	.164	1	.686	.800	.271	2.363	
	How would you describe your IT skills? (ref.cat. "Below Average")									
		Above average	-.592	1.284	.212	1	.645	.553	.045	6.857
		Average	-.335	1.237	.074	1	.786	.715	.063	8.069
Have your ever participated in any type of e-learning before the pandemic? (Ref.cat. "No")										
	Yes	.063	.499	.016	1	.900	1.065	.400	2.833	

a. The reference category is: Below average.

Table 14

		Parameter Estimates					95% Confidence Interval for Exp(B)		
Would you prefer to return to on campus activities? ^a		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Yes	Location	1.897	.746	6.460	1	.011	6.664	1.544	28.769
	What is your age?	.159	.336	.224	1	.636	1.172	.607	2.263
	What is your gender?	.043	.553	.006	1	.937	1.044	.353	3.087
	Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing knowledge. (ref.cat. "Very effective")								
	Very ineffective	1.524	24689.030	.000	1	1.000	4.592	.000	^b
	Ineffective	1.956	1.711	1.308	1	.253	7.073	.247	202.272
	Neither effective nor ineffective	-2.879	1.070	7.237	1	.007	.056	.007	.458
	Effective	.266	.763	.122	1	.727	1.305	.292	5.825
	Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing future employability. (ref.cat. "Very effective")						180042 259.11		
	Very ineffective	19.009	26555.876	.000	1	.999	8	.000	^b
	Ineffective	1.770	1.545	1.312	1	.252	5.870	.284	121.331
	Neither effective nor ineffective	.201	1.039	.037	1	.847	1.222	.160	9.365
	Effective	.170	.734	.053	1	.817	1.185	.281	4.993
	Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing social competences. (ref.cat. "Very effective")								
	Very ineffective	-2.853	1.914	2.222	1	.136	.058	.001	2.454
Ineffective	-3.856	1.398	7.608	1	.006	.021	.001	.328	
Neither effective nor ineffective	-1.014	1.025	.978	1	.323	.363	.049	2.705	
Effective	-1.840	.659	7.792	1	.005	.159	.044	.578	
How would you describe your in-class participation / activity during traditional FACE-TO-FACE learning? (ref.cat. "Above average")									
Below average	3.693	1.079	11.72	1	<.001	40.175	4.850	332.805	
Average	2.766	1.035	7.139	1	.008	15.897	2.090	120.935	
Maybe	Location	.680	.703	.934	1	.334	1.974	.497	7.834
	What is your age?	-.227	.362	.391	1	.532	.797	.392	1.622
	What is your gender?	.323	.557	.335	1	.563	1.381	.463	4.118

Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing knowledge. (ref.cat. "Very effective")									
Very ineffective	19.509	.000	.	1	.	296967 700.34 3	2969677 00.343	2969677 00.343	
Ineffective	-18.020	7513.701	.000	1	.998	1.493E -8	.000	. ^b	
Neither effective nor ineffective	-1.687	.893	3.569	1	.059	.185	.032	1.065	
Effective	-.336	.779	.186	1	.667	.715	.155	3.290	
Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing future employability. (ref.cat. "Very effective")									
Very ineffective	-17.296	.000	.	1	.	3.080E -8	3.080E-8	3.080E-8	
Ineffective	2.312	1.416	2.667	1	.103	10.099	.629	162.138	
Neither effective nor ineffective	1.426	.951	2.251	1	.134	4.164	.646	26.846	
Effective	1.185	.749	2.500	1	.114	3.271	.753	14.209	
Using a five-point scale (1= Very ineffective and 5 = Very effective), rate the effectiveness of FACE-TO-FACE in terms of increasing social competences. (ref.cat. "Very effective")									
Very ineffective	-1.468	1.911	.590	1	.442	.230	.005	9.752	
Ineffective	-2.512	1.126	4.980	1	.026	.081	.009	.737	
Neither effective nor ineffective	-.045	.875	.003	1	.959	.956	.172	5.309	
Effective	-1.051	.666	2.494	1	.114	.350	.095	1.288	
How would you describe your in-class participation / activity during traditional FACE-TO-FACE learning? (ref.cat. "Above average")									
Below average	.509	.798	.408	1	.523	1.664	.349	7.944	
Average	.704	.712	.976	1	.323	2.021	.500	8.163	

a. The reference category is: No.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

Table 18

		Parameter Estimates					95% Confidence Interval for Exp(B)		
		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
How much did you enjoy e-learning classes during the pandemic? ^a									
Not at all	Location	2.327	1.129	4.247	1	.039	10.250	1.121	93.751
	What is your age?	.606	.531	1.300	1	.254	1.833	.647	5.195
	What is your gender?	-1.023	.745	1.882	1	.170	.360	.083	1.550
	What are the <i>advantages</i> of e-learning? (Pick all that you consider true)								
	Access to online materials	.791	.940	.708	1	.400	2.205	.349	13.916
	Learning your own pace	-1.465	.861	2.895	1	.089	.231	.043	1.249

	Ability to stay at home	-.301	.788	.146	1	.702	.740	.158	3.465
	Classes interactivity	-.501	1.033	.235	1	.628	.606	.080	4.594
	Ability to record a class	.252	.847	.089	1	.766	1.287	.245	6.768
	Comfortable surrounding	-1.237	.835	2.195	1	.138	.290	.056	1.491
	Easier / less demanding exams	.629	.774	.659	1	.417	1.875	.411	8.555
A little	Location	-.548	.698	.616	1	.433	.578	.147	2.271
	What is your age?	-2.289	1.125	4.140	1	.042	.101	.011	.919
	What is your gender?	1.702	.957	3.165	1	.075	5.485	.841	35.762
	What are the <i>advantages</i> of e-learning? (Pick all that you consider true)								
	Access to online materials	-.460	.726	.402	1	.526	.631	.152	2.618
	Learning your own pace	-1.603	.739	4.705	1	.030	.201	.047	.857
	Ability to stay at home	.111	.690	.026	1	.873	1.117	.289	4.315
	Classes interactivity	-21.707	.000	.	1	.	3.738E-10	3.738E-10	3.738E-10
	Ability to record a class	-.055	.765	.005	1	.943	.947	.212	4.238
	Comfortable surrounding	-.370	.721	.263	1	.608	.691	.168	2.840
	Easier / less demanding exams	.400	.704	.323	1	.570	1.492	.375	5.936
A moderate amount	Location	.091	.565	.026	1	.872	1.095	.362	3.311
	What is your age?	-.215	.315	.467	1	.494	.806	.435	1.494
	What is your gender?	.315	.521	.366	1	.545	1.370	.494	3.802
	What are the <i>advantages</i> of e-learning? (Pick all that you consider true)								
	Access to online materials	-.520	.571	.829	1	.363	.595	.194	1.820
	Learning your own pace	-.769	.574	1.792	1	.181	.464	.150	1.429
	Ability to stay at home	-.521	.533	.957	1	.328	.594	.209	1.687
	Classes interactivity	-.639	.571	1.252	1	.263	.528	.172	1.617
	Ability to record a class	-.466	.551	.717	1	.397	.627	.213	1.846
	Comfortable surrounding	-.314	.560	.315	1	.575	.731	.244	2.187
	Easier / less demanding exams	-.228	.500	.208	1	.648	.796	.299	2.121
A lot	Location	-.596	.570	1.091	1	.296	.551	.180	1.686
	What is your age?	-.061	.271	.050	1	.823	.941	.553	1.602
	What is your gender?	-.171	.444	.147	1	.701	.843	.353	2.014
	What are the <i>advantages</i> of e-learning? (Pick all that you consider true)								
	Access to online materials	.779	.634	1.508	1	.219	2.179	.629	7.552
	Learning your own pace	-.832	.568	2.141	1	.143	.435	.143	1.326
	Ability to stay at home	.100	.511	.038	1	.845	1.105	.406	3.012
	Classes interactivity	-.602	.513	1.377	1	.241	.548	.200	1.497
	Ability to record a class	.214	.565	.143	1	.705	1.238	.409	3.749
	Comfortable surrounding	-.731	.543	1.814	1	.178	.481	.166	1.395
	Easier / less demanding exams	-.398	.460	.748	1	.387	.672	.273	1.654

a. The reference category is: A great deal.

Table 19

		Parameter Estimates					95% Confidence Interval for Exp(B)		
How much did you enjoy e-learning classes during the pandemic? ^a		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Not at all	Location	2.747	1.204	5.206	1	.023	15.590	1.473	164.984

	What is your age?	1.109	.593	3.501	1	.061	3.032	.949	9.691
	What is your gender?	.233	.833	.078	1	.780	1.262	.246	6.462
	What are the <i>disadvantages</i> of e-learning? (Pick all that you consider true)								
	Reduced interaction with the teacher	1.164	.910	1.637	1	.201	3.204	.538	19.063
	Technical problems related to platform	-.773	1.223	.399	1	.527	.462	.042	5.075
	Lack of interaction with classmates	2.527	1.228	4.236	1	.040	12.510	1.128	138.721
	Non-supportive learning environment at home	-.057	1.328	.002	1	.966	.945	.070	12.757
	Lack of self-discipline	1.967	.969	4.124	1	.042	7.152	1.071	47.762
	Poor network connectivity	.609	1.123	.294	1	.588	1.838	.203	16.612
	Limited funds to buy data or bundle	-.079	1.051	.006	1	.940	.924	.118	7.250
A little	Location	-.120	.841	.020	1	.887	.887	.171	4.609
	What is your age?	-1.655	1.134	2.129	1	.145	.191	.021	1.765
	What is your gender?	2.223	.923	5.804	1	.016	9.231	1.514	56.301
	What are the <i>disadvantages</i> of e-learning? (Pick all that you consider true)								
	Reduced interaction with the teacher	1.599	.842	3.604	1	.058	4.946	.949	25.768
	Technical problems related to platform	.016	.952	.000	1	.987	1.016	.157	6.567
	Lack of interaction with classmates	1.927	.846	5.193	1	.023	6.867	1.309	36.020
	Non-supportive learning environment at home	2.228	.932	5.711	1	.017	9.285	1.493	57.738
	Lack of self-discipline	1.068	.833	1.647	1	.199	2.911	.569	14.881
	Poor network connectivity	-.746	.959	.605	1	.437	.474	.072	3.106
	Limited funds to buy data or bundle	-.863	.913	.895	1	.344	.422	.070	2.523
A moderate amount	Location	.116	.603	.037	1	.848	1.123	.344	3.664
	What is your age?	.023	.324	.005	1	.943	1.023	.542	1.933
	What is your gender?	1.001	.568	3.103	1	.078	2.722	.893	8.293
	What are the <i>disadvantages</i> of e-learning? (Pick all that you consider true)								
	Reduced interaction with the teacher	1.217	.549	4.917	1	.027	3.377	1.152	9.899
	Technical problems related to platform	-.277	.550	.254	1	.615	.758	.258	2.228
	Lack of interaction with classmates	-.348	.701	.246	1	.620	.706	.179	2.791
	Non-supportive learning environment at home	1.768	.731	5.850	1	.016	5.859	1.398	24.547
	Lack of self-discipline	1.047	.647	2.618	1	.106	2.850	.801	10.136
	Poor network connectivity	-.099	.591	.028	1	.867	.906	.285	2.881
	Limited funds to buy data or bundle	.485	.612	.628	1	.428	1.624	.490	5.384
A lot	Location	-.546	.599	.829	1	.362	.579	.179	1.876
	What is your age?	.133	.284	.218	1	.640	1.142	.655	1.991
	What is your gender?	.247	.490	.253	1	.615	1.280	.489	3.348

What are the <i>disadvantages</i> of e-learning? (Pick all that you consider true)									
Reduced interaction with the teacher	.951	.526	3.268	1	.071	2.589	.923	7.260	
Technical problems related to platform	.417	.524	.633	1	.426	1.517	.543	4.240	
Lack of interaction with classmates	.465	.616	.570	1	.450	1.592	.476	5.329	
Non-supportive learning environment at home	1.413	.714	3.914	1	.048	4.109	1.013	16.668	
Lack of self-discipline	.232	.651	.127	1	.721	1.261	.352	4.516	
Poor network connectivity	-.170	.533	.102	1	.749	.844	.297	2.397	
Limited funds to buy data or bundle	-.069	.570	.015	1	.904	.934	.305	2.854	

a. The reference category is: A great deal.