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Distance learning as emergency remote teaching vs. traditional learning for accounting students during the COVID-19 pandemic: Cross-country evidence

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**ABSTRACT**

The main objective of the current study is to examine the perspectives of undergraduate accounting students on the transition to distance learning (DL) as emergency remote teaching from traditional learning (TL) during the COVID-19 pandemic, as well as the learning dimensions of DL compared to TL. The sample includes 782 responses from six countries (France, Jordan, Oman, Qatar, Tunisia, and the UK). In accordance with prior studies, we construct a questionnaire that explores the perceptions of students regarding the TL-to-DL transition process and the learning dimensions of DL vs. TL. The majority of respondents believe that the DL transition process, due to the pandemic, has generated concerns to some extent in all countries. However, in terms of the dimensions of DL vs. TL, significant differences exist between the perspectives among the countries, which provides insights regarding the pandemic’s effect on our educational systems and a more accurate picture of universities’ educational performance. Our results raise important questions regarding the TL system in place before the crisis, as well as highlighting the importance of using technology to deliver educational services. This study provides cross-country evidence, from the perspective both of developed and developing countries, on the impact of the pandemic on students’ learning habits and educational methods.

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1. Introduction

The coronavirus (COVID-19) pandemic represents a global health crisis considered to be the greatest challenge since World War II. Globally, the pandemic is affecting all industries in all countries, including airlines, the economy, and tourism (WHO, 2020). COVID-19 first appeared in Wuhan (China) in December 2019 and was officially registered as a new disease on January 7, 2020 (Pan et al., 2020). Countries worldwide have been attempting to curb the spread of COVID-19 through, for example, the use of vast numbers of testing kits, the mandated/by-choice quarantine of citizens, and the canceling of large events (WHO, 2020).

The battle against COVID-19 has strained the resources of all countries. This pandemic is thus more than just a global health crisis; it is influencing social, educational, economic, and political dimensions globally, creating a crisis from which it will require years to recover (UN, 2020). Specifically, many of our cities and communities have been effectively deserted, as people have been staying indoors, either by choice or by government order. For instance, the functionality and...
responsibilities of social services, such as schools and universities, has been affected by COVID-19 (WHO, 2020). However, globally, most universities have responded quickly to continue to perform their educational functions, in terms of teaching and research, by replacing the traditional learning (TL) method with distance learning (DL) as an “emergency remote teaching” environment using technology (Hodges et al., 2020, p. 2).

DL in regular situations is already an important teaching method for higher education institutions, for reasons including space-saving, infrastructure, and international outreach, as well as being a means to improve their competitiveness (Fogarty, 2020; Sum et al., 2021). As an emergency remote teaching method, DL represents temporary access that enables the provision of education in times of crisis (Hodges et al., 2020). The latter involves universities adopting a fully remote teaching environment as an educational learning solution, replacing TL entirely, until the end of the current crisis, namely the COVID-19 pandemic (Tharapos, 2021). In general, DL is a flexible learning method that reduces the hazards in the traveling required to attend face-to-face classes; it also enables students to join classes from within their comfort zone, and in some cases to watch the classes as many times as they want (Zhang et al., 2006). However, DL transition during a crisis may create disruptions for all related parties, such as students, faculty members, and universities’ management, since its insertion and adoption in our educational system as an emergency condition may lead to the priorities of all involved parties not being fully considered (Hodges et al., 2020). Hence, during the COVID-19 pandemic, we believe that both instructors and students have been suddenly forced to a transfer to a new teaching/learning method that brings ambiguity into the learning environment (Sangster et al., 2020; Tharapos, 2021).

Against this backdrop, using a questionnaire research tool, the main objectives of the current study are to explore: (i) the DL transition process; and (ii) five dimensions of DL vs. TL, namely course content, interaction, skills, performance evaluation, and facilities. Both objectives are considered from the perspectives of undergraduate accounting students experiencing DL for the first time.1 Firmin et al. (2014) argued that students’ views represent one of the best indicators with which to measure DL’s success. Grace et al. (2012) added that students’ satisfaction with, and perceptions of, DL, in terms of learning outcomes, course content, and the development of their skills, are the most important factors in gauging DL’s effectiveness.

Accounting has been chosen in this research based on its broader definition/importance in the context of social, moral, and technical practices in our business world (McGuigan, 2021). Specifically, accounting is the “central processes” of firms within public and private sectors, as well as profit and non-profit organizations (Carnegie et al., 2021, p. 69). Moreover, accounting education provides accounting students with all the necessary practical accounting skills through learning (Reyneke & Shuttleworth, 2018); it is also highly critical to develop students’ social and practical skills to support them in building and maintaining an ethical business environment (Tharapos, 2021). Our sample is based on a questionnaire with data from 782 accounting students (respondents) from six countries (France, the UK, Jordan, Qatar, Tunisia, and Oman).2 The main reason for selecting these countries is related to our research-network capabilities. Our research network was used to inform colleagues about the questionnaire to help in its distribution to their students; we cover three continents to provide a comprehensive perspective concerning the phenomena under study.

In the current pandemic context, many studies have investigated the impact of DL as an emergency remote teaching method on students’ learning habits and faculty’s teaching quality in colleges/schools of business and economics during the COVID-19 pandemic (Ali et al., 2020; Beatson et al., 2021; Osborne & Hogarth, 2021; Sangster et al., 2020; White et al., 2021). For example, Osborne and Hogarth (2021) suggested some useful teaching strategies for implementation by the teachers to narrow the educational gap that occurs due to using DL as emergency remote teaching. Beatson et al. (2021) investigated the factors that may influence the faculty’s motivation to teach during the pandemic, providing useful recommendations in relation to faculty’s academic beliefs, career development, motivations, and adaptation to the new academic environment. Ali et al. (2020) and Sum et al. (2021) examined the engagement of accounting students, while White (2021) investigated the academic integrity of accounting assessment tools adopted during the pandemic through DL as emergency remote teaching.

Although some recent studies have addressed this context, we believe that the novelty of our approach lies in its incremental contribution to the literature and to our knowledge. First, our study may yield different results to prior studies since it deeply focuses on undergraduate students’ perspectives using five learning and teaching dimensions rather than one dimension (i.e. interaction or assessment performance only). Specifically, it may demonstrate the opportunities and challenges faced by accounting students during the pandemic within five dimensions and between DL (as emergency remote teaching) and TL (pre-COVID-19 pandemic). Moreover, it explores students’ first-time experience of DL as emergency remote teaching, its transition, and resources during the COVID-19 pandemic. Second, we compare our results across six countries (encompassing both developed and developing countries) to provide an extensive insightful discussion of our findings in order to extend their generalizability, thus providing insights both generally and at the individual-country level. Third, the results of the current study may play an important role in improving the use of DL to meet students’ learning needs.

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1 In the consent form, we asked students to discontinue the questionnaire if they had prior DL experience in order to ensure the validity of the results.
2 During the COVID-19 pandemic within these countries, students started their semester, based on TL in January/February 2020; around the middle of March 2020, however, their learning experience transitioned to DL. Moreover, we classified the countries’ development level based on the UN country classification (UN, 2014); accordingly, among our sample, France and the UK are considered developed countries, while Jordan, Oman, Qatar, and Tunisia are considered developing countries. Furthermore, in terms of university sampling criteria, we included in our sample only universities that used DL as emergency remote teaching with a synchronous approach during the pandemic.
during the COVID-19 pandemic (or similar future crises), as well as providing practical implications related to the “new normal” pertaining to educational systems in the future (Sangster et al., 2020). Specifically, it provides insights, recommendations, and valuable information on responses to the pandemic that can benefit educational systems in the future. In general, this study attempts to identify the challenges faced by accounting education during the COVID-19 pandemic in order to enhance decision-making processes towards facing COVID-19 challenges through studying accounting students.

The remainder of the paper is structured as follows. Section 2 reviews the literature. Section 3 details the research methodology, while Section 4 presents and discusses the results. Finally, Section 5 provides conclusions, including implications and future research avenues.

2. Literature review

2.1. DL transition process

Transitioning to DL as emergency remote teaching requires facilities such as internet access, communicating and lecturing software, and basic technological skills. Internet access is the main pillar of DL, considered vital to its success. Internet usage, in the DL context, also increases the readiness of related knowledge resources that can be used in any place (e.g. at home) and at any convenient time (i.e. morning or evening) by instructors and students (Currie & Couduff, 2015). However, the internet has shortcomings that might adversely affect the DL experience, such as slow internet speed or a weak signal caused by a heavy load on the network, leading to technical problems both for faculty and students (Apostolou et al., 2021). Furthermore, DL requires technology skills and knowledge, both among instructors and students, in order to navigate the communication software (e.g., Microsoft Teams) and to resolve any technical issues arising during live sessions (Fogarty, 2020; O’Connell et al., 2022).

Sangster et al. (2020) identified the pre-COVID-19 teaching method, globally, as “traditional” in terms of lectures, tutorials, and workshops. Moreover, Fogarty (2020) argued that the usage of technology before the pandemic was infrequent due to the choice of the instructors regarding whether to implement it in accounting classrooms. However, the COVID-19 pandemic requirements for social distancing, for example, required universities to use DL as an urgent alternative to the education, teaching, and learning process. According to Fogarty (2020), the pandemic forced the majority of students and faculty members into the early adoption/learning of technological skills and knowledge that they may not have engaged with before the pandemic. Moreover, the pandemic led to many options for learning delivery methods being considered, potentially leading to confusion among students attending different accounting classes in which each instructor may be using different technological methods (i.e. software) (Osborne & Hogarth, 2021). These issues increase tension in the learning process in relation to transition process factors to DL as emergency remote teaching, such as technology support, internet usage, and students’ learning expectations during the pandemic. Our study attempts to address these concerns in the accounting education literature from the perspective of undergraduate accounting students.

2.2. The dimensions of DL vs. TL

The adoption of DL as emergency remote teaching due to COVID-19 raises several important questions, such as how educational institutions can overcome the effects of this pandemic and ensure that all the dimensions of the learning environment are provided for. Prior studies on DL have identified the main dimensions of learning that offer a comparable alternative to TL, considering also students’ perspectives in order to measure these dimensions (Draus et al., 2014; Firmin et al., 2014; Grace et al., 2012; Lenert & Janes, 2017; Mandernach, 2009; Sargent et al., 2011). Our study highlights the most common dimensions of learning, in accordance with prior studies, that must be considered during the transition to DL: course content; interaction; skills; performance evaluation; and facilities (Draus et al., 2014; Sargent et al., 2011). The remainder of this sub-section briefly discusses prior studies’ views on each of these dimensions.

2.2.1. Course content

Prior studies have shown that course content can be delivered effectively through the use of DL tools (Lloyd & Robertson, 2012). Accordingly, effective DL in general means covering the course’s theoretical and practical materials, as well the course syllabus, to achieve the course’s learning objectives and outcomes (Elhaty et al., 2020; Mayer & Moreno, 2003). For instance, Lloyd and Robertson (2012) found that 74% of students understood the theoretical course content, while the students’ satisfaction with practical materials achieved a very low level of satisfaction (37%). On the one hand, Draus et al. (2014) found that TL is more effective than DL in achieving the course’s learning outcomes. They suggested that the face-to-face learning environment enhances undergraduate students’ course navigation to achieve the course’s objectives through help from instructor contact and the use of a rubric to review the course in a TL environment. On the other hand, Arkorful and Abaidoo (2015) argued that DL not only provides an online course, but also adds further features related to time and place, based on the student’s preferences, which might enhance his/her understanding of the course content. However, during the COVID-19 pandemic, these prior studies’ positive reflections on DL might not be adequate.

3 Sangster et al. (2020) argued that the COVID-19 pandemic has deeply and permanently changed higher education; they asserted that the pre-COVID-19 education system would not be returning in the near future.
This view is reflected in recent studies’ findings in relation to the pandemic (O’Connell et al., 2022; Tharapos, 2021). For example, Tharapos (2021) argued that the higher educational system is developmental in nature, and the urgent adoption of DL as a quick response to the pandemic’s lockdown may have caused a gap between DL and TL course-content dimensions. This author also argued that universities should enhance faculty members’ awareness concerning course content development, renovation, and means of delivery during the pandemic; notably, however, these issues require much time for development, which might affect the course learning outcomes through the use of DL as emergency remote teaching adopted during the pandemic. Nonetheless, Sangster et al. (2020) found that accounting courses delivered online through DL, from the faculty perspective, effectively addressed accounting concepts and practical aspects; they also, however, identified some issues, such as the teaching and learning environment.

### 2.2.2. Interaction

One of the most important dimensions of learning is student interaction. Interaction within a collaborative environment creates the status quo for the students, enabling them to communicate and build trust with their instructors and colleagues; an active and interactive learning environment helps improve students’ learning capabilities (Hussin et al., 2019; Swanson et al., 2015; Wolcott & Sargent, 2021). It is thus crucial that faculties maintain a valuable and useful interactive environment between themselves and their students, as well as between students (Draus et al., 2014; Mandernach, 2009). Mandernach (2009) argued that students engaged more with online lectures compared to traditional face-to-face lectures, with some students finding their interaction through DL to be improved because they feel more comfortable compared to TL.

Conversely, due to the COVID-19 pandemic, the quick switch from TL to DL as emergency remote teaching threw up many challenges for students who were not ready for this sudden change, as well as for instructors, since many may not have had the requisite skills and experiences for online teaching (Ali et al., 2020; Sum et al., 2021). Ali et al. (2020) clearly highlighted this kind of struggle, arguing that “...we discovered this [lack of requisite skills required for effective student engagement in online learning] for ourselves as we struggled with the transition from face to face classroom delivery to online teaching during the recent COVID-19 disruptions” (p. 267). Moreover, prior studies in relation to the pandemic have found that students’ face-to-face social interaction with their instructors and peers is a critical factor, the lack of which negatively affects their learning habits and environments (Ali et al., 2020; Beatson et al., 2021; O’Connell et al., 2022). Nevertheless, Sangster et al. (2020) found that most faculty in their study considered that more questions were asked during online classes compared to face-to-face TL, and that it was easy to allocate effective and sufficient online office hours.

### 2.2.3. Skills

Prior studies have found that TL face-to-face lectures may be considered an opportunity to gain professional skills on the spot (Duncan et al., 2012; Swanson et al., 2015), while DL has varied findings in the literature. For example, Arkorful and Abaidoo (2015) posited that DL has a negative effect on students’ communication skills (i.e. oral professional presentations). They suggested that, although some students might have sound academic working knowledge, they may not be able to demonstrate this to the instructor or other students due to the lack of distance communication skills. Robinson and Hullinger (2008) expected that professional communication skills would not be improved through DL, while professional teamwork and problem solving skills would be improved through online interaction and discussion between the instructor and the other students. In general, our study focuses on the most common professional skills identified in the literature as necessary to achieve accounting courses’ objectives, namely communication, teamwork, decision-making, and problem-solving (McBrien et al., 2009; Sargent et al., 2011; Zhu & Fleming, 2017).

During the pandemic, prior studies have found that the adoption of DL as emergency remote teaching is a good opportunity to gain professional and technical skills through the students’ self-development capabilities (McGuigan, 2021; O’Connell et al., 2022). Specifically, McGuigan (2021) considered that the COVID-19 pandemic’s lockdown restrictions led to students becoming more self-independent, thus increasing their awareness concerning self-development capabilities in order to create their own learning environment to gain professional skills. This may lead to positive expectations for enhanced professional decision-making and problem-solving skills in post-COVID-19 educational settings and among post-COVID-19 accounting graduates (O’Connell et al., 2022).

### 2.2.4. Performance evaluation

One of the most important dimensions of learning is performance evaluation through assessment tools. DL needs to deliver a comparable performance evaluation environment to that of TL. In this context, prior studies have discussed the elements of performance evaluation, such as quality, quantity, and the performance evaluating process, when using DL compared to TL (Kaplan & Haenlein, 2016; Lenert & Janes, 2017; Sargent et al., 2011). However, scholars have raised the issue of higher cheating rates through the use of DL assessment tools. In this context, for example, Kaplan and Haenlein (2016) questioned how it is possible “…to ensure that the person who followed the course is the same as the one who took the exam” (p. 447).

During the pandemic, the adoption of DL as emergency remote teaching still suffered from issues with cheating (Fogarty, 2020; White, 2021). For example, White (2021) shared her experiences in relation to the integrity of the assessment and design of assessment tools in accounting during the COVID-19 pandemic. She found that cheating attempts increased since the quizzes/exams were conducted online, as well as other forms of cheating/misconduct, such as inappropriate collaboration between the students. These forms of cheating considerably reduce the quality/effectiveness of the assessment tools.
She also found that the assessment tools were originally designed for TL, while a quick shift from TL to DL as emergency remote teaching lowered the quality of these assessments (i.e. form of the questions) since they were (due to the quick shift) poorly re-designed for the online environment. Similarly, Fogarty (2020) found that the COVID-19 pandemic led to significant amendments to the design of accounting courses’ assessment tools in the first semester of 2020. This also led to a significant alteration in the grading distribution among the assessment tools that noticeably influenced the quality and quantity of these tools (Fogarty, 2020). In terms of quantity, prior studies have noted that the use of assessment tools (i.e. number of quizzes) increased during the pandemic (Fogarty, 2020; White, 2021). According to White (2021), this is because the students could easily access the online platform from their homes, as well because user-friendly websites (i.e. Socratic and Kahoot) enabled instructors to design, deliver, and evaluate (mark) such assessment tools.

2.2.5. Facilities and other criteria

The facilities of DL are limited to the online live session and the software capabilities that enhance students’ learning experience (Draus et al., 2014). These include the lecture atmosphere and recordings. Prior studies have argued that students have a stronger personal experience of the lecture atmosphere when they are relaxed and learning in their homes (Griffiths & Graham, 2009). Moreover, they can also watch the recording at a time that is convenient to them in order to gain a better learning experience and improve their knowledge; this is a so-called synchronous classroom approach (Adnan & Anwar, 2020; Apostolou et al., 2021). Further, according to the literature, other aspects of DL may also enhance students’ self-confidence, giving them further freedom in approaching lectures how they wish (Apostolou et al., 2021; Fogarty, 2020).

During the pandemic, we believe that institutions’ use of DL as emergency remote teaching may have significantly affected both the atmosphere of the lecture and students’ perceptions (Fogarty, 2020; Sangster et al., 2020). In other words, in times of crisis, DL emergency remote teaching with a synchronous approach allows students to access live lectures and recordings; students can also boost their self-confidence in a DL learning environment. However, prior studies have found some issues in this regard. For example, the distractions created (i.e. people talking over each other and interference through the mic) both by students and instructors during the live session might negatively influence students’ learning atmosphere and perceptions (Fogarty, 2020). Another example relates to whether students only watch the recordings because they are told to by their instructor or whether they actually find them useful for their own study purposes (potentially watching them more than once) (Fogarty, 2020; Sangster et al., 2020).

3. Research methodology: The questionnaire

We utilized a questionnaire to explore the perceptions of undergraduate accounting students regarding DL as emergency remote teaching vs. TL during the COVID-19 pandemic. Academic connections in different countries were employed in this research to reach a high number of specific respondents. This is also called convenience sampling as it is used to create a research network to collect data from respondents in their own country (van de Vijver, 2015). Hence, in accordance with this research-network approach, colleagues working (or have academic connections) in universities in the six countries under study (France, Jordan, Oman, Qatar, Tunisia, and the UK) supported the distribution of the questionnaire among students.

Regarding the university sampling criteria, we included in our sample only universities using a DL synchronous teaching approach. Specifically, the students attend classrooms with a set of study schedules and live discussions from their homes (DL lecture environment through software), while the instructor records the lecture (a feature provided by the software) and provides access to the students to enable them to re-watch the recording to enhance their understanding and knowledge. The criteria for accounting students participating in our study were that they should have experienced the transition period from TL to DL, while having also experienced both learning environments in the same semester (specifically, those undergraduate students who had started their semester, based on TL, in January/February 2020, and switched to DL around the middle of March 2020). However, we were not able to include some countries because they decided to partially stop the learning process during the COVID-19 pandemic in mid-March (Schleicher, 2020; UN, 2020). For instance, in our initial sample, we included Kuwait, but we were not able to distribute the questionnaire there since the government stopped education across the country in the Spring 2020 semester.

Our sample criteria also included the fact that accounting students should have experienced DL for the first time, in order to enhance the reliability and the validity of our findings, since they are new to the DL environment, which indicates objective responses. In the consent form, we requested participants to discontinue the questionnaire if they had prior DL experience. The questionnaires were available from the end of March 2020 until the end of May 2020 in order to seek accounting undergraduate students’ perceptions of their new learning experiences during the COVID-19 pandemic. During this period, the pandemic was at its peak in many parts of the world (UN, 2020).

Our questionnaire structure comprised five sections (see the Appendix for further details). The first section included certain demographic information, such as the country of study and the student’s gender. The second section focused on the most common DL tools and the software used by the faculty members [(i) Blackboard Collaborate Ultra, (ii) Microsoft Teams, (iii) Webex, (iv) Zoom, (v) Echo 360, (vi) BigBlueButton, and (vii) Other]. The third section examined the DL transition process, comprising ten statements (listed in Table 5) covering the transition, the internet, the technical issues that occurred, and further aspects based on prior studies (see Section 2.1). In this section of the questionnaire, we employed a five-point Likert scale to measure the level of agreement (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly dis-
agree). The fourth section discussed the most important dimensions of DL vs. TL, in accordance with prior studies (see Section 2.2): (i) course content (six statements listed in Table 6); (ii) interaction (eight statements listed in Table 7); (iii) skills (four statements listed in Table 8); (iv) performance evaluation (three statements listed in Table 9); and (v) facilities and other criteria (four statements listed in Table 10). In this section, we also employed a five-point Likert scale to measure perceptions regarding DL vs. TL (5 = DL is absolutely better, 4 = DL is relatively better, 3 = Both are the same, 2 = TL is relatively better, and 1 = TL is absolutely better). The final section of the questionnaire included three open-ended questions covering the advantages, disadvantages, and possible improvements pertaining to DL, from the perspective of the undergraduate students. We believe that their open-ended inputs enhance the findings of the paper and support their answers to the questionnaire overall. Thus, we explored 35 statements covering the constructs of the questionnaire related to the transition process (10 statements), five dimensions (25 statements), and three open-ended questions related to the DL, validated and commonly used in prior studies (Love & Fry, 2006). Tables 5–10 in Section 4 provide details regarding each statement.

We prepared the questionnaire as a Word file in English and then translated it into French and Arabic; we asked one of our colleagues who is fluent in French to translate the questionnaire into French language, while Arabic is our native language, so we translated the questionnaire into Arabic language ourselves. Afterwards, we created the questionnaire online using Google Forms (see the Appendix for the adopted functions in Google Forms), and we sent the link to respondents (within our university) and to our research peers for them to distribute it to their students via email. Following discussions with our research network and colleagues in terms of their supporting capacity, we targeted distributing 1,500 questionnaires to six countries. Specifically, across 14 public universities, we distributed the questionnaire to the following number of respondents per country: France, 500; Jordan, 200; Oman, 150; Qatar, 400; Tunisia, 150; and the UK, 100. The target per country was based on our research network and colleague support, through which we were able to distribute the questionnaire. As a final sample, we received 782 complete and valid responses, representing a response rate across all countries of approximately 52%; we excluded incomplete responses from the final sample.

Table 1 shows the final acceptance rate for the completed questionnaires from the six countries, as well as the number of universities per country. Table 1 also shows respondents' demographic information, in terms of gender, for each country. Table 1 reveals that female students made up the majority of respondents (71.6%). Due to the convenience-sampling technique employed, we had no control over participants' gender (van de Vijver, 2015), given our research network's efforts to secure a representative number of participants. Hence, the analysis, based on gender, might be biased (Saunders & Lewis, 2012; van de Vijver, 2001). Accordingly, our study does not focus on gender in its analysis; the main focus is on the DL and TL preferences during COVID-19 pandemic across the six countries. We show the gender for demographic-information purposes only.

Regarding testing the reliability and validity of its questionnaire items, Cronbach's alpha values were employed to test the internal consistency of the questionnaire's statements. Since the Cronbach's alpha values are 0.957 for all items and over 0.8 for each variable, which is more than the recommended value (0.75) for this test (Saunders & Lewis, 2012), internal consistency is demonstrated.

4. Results and discussion

4.1. DL software usage

Universities all over the world have chosen different ways to deal with the lockdown due to the COVID-19 pandemic (UN, 2020). Some decided to temporarily stop services until the end of the pandemic, while others decided to go online in order to avoid delays in educational progress by using the facilities available (Schleicher, 2020; UN, 2020). Many universities made remarkable efforts to support their students and communities during the pandemic lockdown (UN, 2020). One extremely important factor in enabling universities to deal with the lockdown and continue to deliver educational services pertains to the means of communication with students.

In this section, we aim to ascertain the most commonly used communication software programs in business schools to deliver educational services. In our questionnaire, the communication programs available were: (i) Blackboard Collaborate Ultra; (ii) Microsoft Teams; (iii) Webex; (iv) Zoom; (v) Echo 360; (vi) BigBlueButton; and (vii) Other. In the Other category, the respondents added the following programs: Moodle; Adobe Connect; Discord; Skype; and JIBI. Table 2 shows the frequency and the percentage of their occurrence.

Our results revealed that Microsoft Teams is the most widely used option (342), followed by Zoom (305). The other programs are not commonly used, representing less than 24% in total. The pandemic led to different options for learning delivery methods being put in place, which may raise concerns regarding the features of these methods, as each instructor may use different technological methods and applications (Osborne & Hogarth, 2021). Thus, finding a DL environment that works for all students is extremely challenging, requiring technology knowledge and updates (Fogarty, 2020; Sangster et al., 2020). Sangster et al. (2020) also asserted that technology access and adequate preparation and training, both for faculty and students, is important to overcome the DL issues that have arisen in the wake of the pandemic.

4 Note that the number of distributed questionnaires in each country is not related to the total number of students studying accounting at the universities selected, nor is it representative of the entire population of accounting students at the universities selected.
This sub-section presents the analysis of the overall study variables per country, for which we employed median rank, ANOVA, and Kruskal–Wallis tests to validate our results. The median rank clarifies whether the country samples show a greater or lesser proportion of the same observations above or below the median. Table 3 shows that there are notable differences in the results between the responses, based on country, and ranks the response for each country as more or less than the median (the middle value). For example, one notable difference relates to the content dimension; in France, around 67% of the responses are higher than the median, while only 15% in Jordan are higher than the median, showing that there is significant difference between these countries. In general, the level of agreement in France in all of the dimensions is higher than the average; for example, it is 72% in the interaction dimension, while it is lower than 30% in the other countries. This may raise important questions regarding the economic development of the involved country, i.e. whether it is developed or developing. Based on the median ranking results, we believe that the perspectives of the students (respondents) demonstrate differences across countries. Hence, we believe that the differences among the countries reveal insights that require further discussion. For instance, our results suggest that the COVID-19 pandemic has had an impact on the rate of acceptance of DL as a first-time experience for students. Specifically, our tests show that the DL transition process is different across all countries, as well as within developed (France and the UK) and developing (Jordan, Qatar, Oman, Tunisia) countries. The responses also show differences among the dimensions of DL vs. TL. For instance, over 60% of respondents’ answers are less than the median for skills and performance for DL, indicating that they are not satisfied with DL in relation to enhancing their skills or evaluating their performance, while, for the interaction and facilities responses, only 50% are less than the median. In accordance with the median rank results, we believe that the perspectives of the students (respondents) demonstrate differences across countries. We thus ran ANOVA and Kruskal–Wallis tests to enhance our understanding of these differences across the countries. Table 4, Panel A, shows that there is a significant difference between the respondents’ answers, based on their country of study, for all variables. For the ANOVA test, the $F$ value is greater than 4, with a level of significance less than 1%. Moreover, Table 4, Panel B, which represents the Kruskal–Wallis test, also shows that the responses were significantly different, and that the views of the students were dissimilar in all of the study variables at a significance level of 1%. These results therefore clearly show that there are significant differences in the responses based on the country of study.

Table 1
Response rate and demographic information per country.

| Country | Questionnaires distributed | Completed questionnaires received | No. of universities | Male | Female | Total |
|---------|---------------------------|----------------------------------|---------------------|------|--------|-------|
| France  | 500                       | 313 (62.6%)                      | 3                   | 76   | 237    | 313   |
| Jordan  | 200                       | 79 (39.5%)                       | 3                   | 42   | 37     | 79    |
| Oman    | 150                       | 60 (40%)                         | 2                   | 39   | 21     | 60    |
| Qatar   | 400                       | 219 (54.8%)                      | 2                   | 30   | 189    | 219   |
| Tunisia | 150                       | 75 (50%)                         | 2                   | 29   | 46     | 75    |
| UK      | 100                       | 36 (36%)                         | 2                   | 6    | 30     | 36    |
| Total   | 1500                      | 782 (52%)                        | 14                  | 222  | 560    | 782   |

Note: This Table illustrates section 1 of the survey demographic information and response rates. All the universities are public. The number of questionnaires distributed is based on our research network and colleague support in which we were able to distribute the questionnaire and it is not representing the entire population of accounting students at the universities selected.

Table 2
Programs used in DL.

| Programs used          | Frequencies | %    |
|------------------------|-------------|------|
| Microsoft Teams        | 342         | 29.69%|
| Zoom                   | 305         | 26.48%|
| Blackboard Collaborate Ultra | 240 | 20.83%|
| WebEx                  | 25          | 2.17% |
| Echo 360              | 6           | 0.52% |
| BigBlueButton          | 46          | 3.99% |
| Moodle                 | 87          | 7.55% |
| Adobe Connect          | 28          | 2.43% |
| Discord                | 27          | 2.34% |
| Skype                  | 10          | 0.87% |
| JIBI                   | 36          | 3.13% |
| Total                  | 1152        | 100% |

Note: This Table shows the frequencies of programs used in DL during the COVID19 Pandemic.
4.3. Transition process and dimensions of DL vs. TL: results by statement and country

4.3.1. DL transition process

During the pandemic, globally, students have been placed in a situation of anxiety and doubt concerning the future of their education and the whole process of learning (Beatson et al., 2021; Osborne & Hogarth, 2021; Sangster et al., 2020; UN, 2020). This leads to concerns regarding the rapid transition to DL and its processes in order to continue with their semester (Tharapos, 2021). Table 5 shows the mean results for the DL transition process according to the statements obtained from section 3 of the questionnaire across the countries studied. We used 10 statements (abbreviated to S1–10 hereafter) to assess the DL transition process.

Overall, in relation to the total mean for each country, it is notable that most responses are around the middle value (3 = neutral), while Jordan has the highest mean (3.50). The overall mean for these statements in all countries is 3.40. In other words, students think that the DL transition process was successful across countries. However, other factors were also cited, such as issues with the program/platform used by the instructors, as well as slow internet speeds, and disconnection while using the assessment tool (i.e., sitting exams). For instance, S1 results show that the transition to DL learning was somewhat efficient, with respondents believing that the DL experience did not entirely meet their expectations (S9). According to Sangster et al. (2020), academics should also work alongside professionals to leverage the quality of DL delivery, especially in the accounting field. Moreover, students in most countries agree that the university provided sufficient technical support.

### Note:
This Table shows the Median Rank test Results per country.

### Table 3
Median rank.

| Var.       | Median France | Jordan | Oman | Qatar | Tunisia | UK | Total (over or less than the median %) |
|------------|---------------|--------|------|-------|---------|----|----------------------------------------|
| DL Process | > Median 152  | 35     | 12   | 122   | 36      | 15 | 372 (47.5%)                            |
|            | <= Median 161 | 44     | 48   | 97    | 39      | 21 | 410 (52.5%)                            |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |
| Course Content | > Median 209 | 12     | 18   | 87    | 30      | 12 | 368 (47.1%)                           |
|            | <= Median 104 | 67     | 42   | 132   | 45      | 24 | 414 (52.9%)                           |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |
| Interaction | > Median 225  | 23     | 24   | 92    | 18      | 9  | 391 (50%)                             |
|            | <= Median 88  | 56     | 36   | 127   | 57      | 27 | 391 (50%)                             |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |
| Skills     | > Median 187  | 16     | 21   | 72    | 15      | 0  | 311 (39.7%)                          |
|            | <= Median 126 | 63     | 39   | 147   | 60      | 36 | 471 (60.3%)                          |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |
| Performance| > Median 160  | 11     | 18   | 65    | 12      | 0  | 266 (34%)                            |
|            | <= Median 153 | 68     | 42   | 154   | 63      | 36 | 516 (66%)                            |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |
| Facilities | > Median 190  | 22     | 24   | 109   | 39      | 3  | 387 (49.5%)                          |
|            | <= Median 123 | 57     | 36   | 110   | 36      | 33 | 395 (50.5%)                          |
| Total      | 313           | 79     | 60   | 219   | 75      | 36 | 782                                    |

### Note:
This table illustrates the results of the ANOVA and Kruskal-Wallis tests to validate the differences across the countries.

### Table 4
ANOVA and Kruskal-Wallis tests.

#### Panel A: ANOVA

| Var.       | Df       | Mean square | F      | Sig  | Kruskal-Wallis | Sig    |
|------------|----------|-------------|--------|------|----------------|--------|
| DL Process | Between Groups | 5     | 2.220  | 4.416 | 0.001 | 20.563        | 0.001  |
|            | Within Groups  | 776    | 0.503  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |
| Course Content | Between Groups | 5     | 15.985 | 14.944 | 0.000 | 79.759        | 0.000  |
|            | Within Groups  | 776    | 1.070  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |
| Interaction | Between Groups | 5     | 21.353 | 23.456 | 0.000 | 115.971       | 0.000  |
|            | Within Groups  | 776    | 0.910  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |
| Skills     | Between Groups | 5     | 30.587 | 26.558 | 0.000 | 121.487       | 0.000  |
|            | Within Groups  | 776    | 1.152  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |
| Performance | Between Groups | 5     | 18.577 | 12.345 | 0.000 | 58.461        | 0.000  |
|            | Within Groups  | 776    | 1.505  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |
| Facilities | Between Groups | 5     | 14.619 | 11.956 | 0.000 | 58.718        | 0.000  |
|            | Within Groups  | 776    | 1.223  |       |     |               |        |
|            | Total       | 781    |        |       |     |               |        |

#### Note:
This table illustrates the results of the ANOVA and Kruskal-Wallis tests to validate the differences across the countries.

4.3. Transition process and dimensions of DL vs. TL: results by statement and country

4.3.1. DL transition process

During the pandemic, globally, students have been placed in a situation of anxiety and doubt concerning the future of their education and the whole process of learning (Beatson et al., 2021; Osborne & Hogarth, 2021; Sangster et al., 2020; UN, 2020). This leads to concerns regarding the rapid transition to DL and its processes in order to continue with their semester (Tharapos, 2021). Table 5 shows the mean results for the DL transition process according to the statements obtained from section 3 of the questionnaire across the countries studied. We used 10 statements (abbreviated to S1–10 hereafter) to assess the DL transition process.

Overall, in relation to the total mean for each country, it is notable that most responses are around the middle value (3 = neutral), while Jordan has the highest mean (3.50). The overall mean for these statements in all countries is 3.40. In other words, students think that the DL transition process was successful across countries. However, other factors were also cited, such as issues with the program/platform used by the instructors, as well as slow internet speeds, and disconnection while using the assessment tool (i.e., sitting exams). For instance, S1 results show that the transition to DL learning was somewhat efficient, with respondents believing that the DL experience did not entirely meet their expectations (S9). According to Sangster et al. (2020), academics should also work alongside professionals to leverage the quality of DL delivery, especially in the accounting field. Moreover, students in most countries agree that the university provided sufficient technical support.
Table 5
The process mean per statement.

| Country | S1: The transition process to distance learning in my university is efficient | S2: During my distance learning experience, the university supports me when I need help | S3: This experience has enriched my knowledge with skills in the field of technology and distance learning | S4: Recording lectures enables me to refer to them again, and this enhances my understanding | S5: I face technical problems during the distance learning process | S6: The internet is slow due to network heavy load | S7: I face problems during the online assessment tools (quizzes, exams) | S8: I am confused/distracted because instructors use different programs for distance learning | S9: Distance learning meets my expectation | S10: I prefer to implement distance learning in the future | Total |
|---------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| France N = 313 | 3.57 | 4.89 | 3.35 | 3.47 | 2.95 | 3.76 | 4.42 | 3.14 | 3.25 | 2.21 | 3.40 |
| Jordan N = 79 | 3.39 | 3.78 | 3.52 | 3.94 | 2.71 | 4.24 | 4.57 | 3.33 | 2.78 | 2.72 | 3.50 |
| Oman N = 60 | 3.20 | 3.15 | 3.85 | 3.90 | 2.05 | 4.90 | 3.30 | 3.20 | 2.90 | 3.55 | 3.40 |
| Qatar N = 219 | 3.83 | 3.69 | 3.94 | 4.59 | 2.77 | 2.61 | 2.43 | 3.47 | 3.27 | 3.01 | 3.36 |
| Tunisia N = 75 | 2.84 | 2.40 | 3.32 | 4.08 | 3.08 | 4.52 | 4.80 | 3.12 | 2.72 | 2.44 | 3.43 |
| UK N = 36 | 3.58 | 3.92 | 3.50 | 4.00 | 3.00 | 3.92 | 4.08 | 2.92 | 2.75 | 2.08 | 3.38 |
| Total N = 782 | 3.40 | 3.64 | 3.58 | 4.00 | 2.76 | 3.99 | 3.93 | 3.12 | 2.945 | 2.67 | 3.40 |

Note: This Table demonstrates the mean of the DL process for each statement per country. In section 3 of our survey, we have employed 5 point Likert scale to measure the level of agreement where 5 indicates strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree. This scale applied the process of DL only.
(S2), which is an important factor according to Fogarty (2020). For instance, France’s respondents believe that their universities provided full technical support (S2, mean 4.89), while, in Tunisia, the respondents feel that the technical support provided was insufficient (S2, mean 2.40). Unfortunately, internet issues represent one of the major disadvantages of DL. These drawbacks regarding the internet and communication have also been identified in the literature (Adnan & Anwar, 2020; Sangster et al., 2020), demonstrating the need for IT skills. Specifically, the results for S6 and S7 show that most respondents across all countries (except Qatar) agree that there was often disconnection during live lectures and the use of assessment tools due to the heavy load on the platform used by the instructor. In contrast, our results show that one of the most important advantages of DL, according to the respondents, is that it allows the recording of the lectures and enhances understanding of the material (S4 mean) across all countries.

Our findings are in line with prior studies, which have shown that the internet is one of the key challenges for the DL audio and/or video experience, due to the heavy load on the platform used by the university (Currie & Courduff, 2015). According to Fogarty (2020), it is important in the DL environment to resolve any technical issues arising during live sessions (O’Connell et al., 2022). Adnan and Anwar (2020) confirmed that the sudden transfer from TL to DL highlights the lack of the resources in academic institutions, i.e. the insufficient access to, and availability of, the internet and the lack of organizational responsiveness to increasing technology capacity to facilitate online delivery. In this context, Tharapos (2021) emphasized the quick response during the pandemic that is needed to deal with the technology drawbacks and the urgent needs arising in order to enhance awareness about new methods of delivery.

### 4.3.2. Course content

In accordance with prior studies, we implemented six research statements (S11–S16) to measure students’ perspectives regarding DL compared to TL, in terms of the course content. It is important to note that, in an accounting major, as in many fields in business studies, there is both theoretical and practical content; thus, we have a statement for each content type (Mayer & Moreno, 2003). Tharapos (2021) claimed that during the pandemic some academics redesigned and reinvigorated...
accounting courses, but that many lacked adequate skills or experience to do so. Tharapos (2021) also mentioned that lack of resources, fear of failure, and pressure to achieve research outputs were the reasons for some academics not innovating their course contents.

As shown in Table 6, as we expected, S12 shows that respondents across all countries are in favor of TL, in terms of their understanding of practical content in general, with a mean of less than 2, meaning that “TL is absolutely better.” This is in alignment with prior research (e.g. Elhaty et al., 2020; Sangster et al., 2020), which has found that practical courses in general create challenges and that DL delivery in higher education lacks effectiveness in achieving courses’ learning outcomes. However, these findings are in contrast with those of other studies; for example, Arkorful and Abaidoo (2015) suggested that DL contributes to the educational environment and adds more flexibility for students related to time and place, thus improving their understanding of the course content. Tharapos (2021) asserted that institutions must recognize that, in times of crisis, the development and maintenance of the course content is crucial. This includes innovative learning and teaching methodologies.

One respondent from Jordan stated, “I miss understand some of the practical parts and I lose the ability to develop my understanding,” while a student from Qatar reported that “I have some issues on the clarity of understanding the practical problems through DL.” These statements are representative of most participants, as well as being in line with recent studies’ findings, which claim that practical sessions and tutorials are being negatively affected by the pandemic. For instance, Sangster et al. (2020) asserted that, unlike theoretical subjects, accounting depends on quantitative and qualitative ques-

| Country        | S25: Developing my communication skills | S26: Developing my team work skills | S27: Developing my decision-making skills | S28: Developing my skills in solving exercises and problems | Total |
|----------------|----------------------------------------|-----------------------------------|------------------------------------------|-------------------------------------------------|-------|
| France N = 313 | 3.25                                   | 1.04                              | 3.95                                     | 2.48                                            | 2.68  |
| Jordan N = 79  | 2.37                                   | 1.22                              | 3.77                                     | 2.42                                            | 2.45  |
| Oman N = 60    | 3.05                                   | 1.4                               | 3.65                                     | 2.65                                            | 2.69  |
| Qatar N = 219  | 3.02                                   | 1.49                              | 3.77                                     | 2.64                                            | 2.73  |
| Tunisia N = 75 | 2.32                                   | 1.4                               | 3.85                                     | 2.32                                            | 2.47  |
| UK N = 36      | 1.58                                   | 1.5                               | 3.83                                     | 2.08                                            | 2.25  |
| Total N = 782  | 2.60                                   | 1.34                              | 3.80                                     | 2.90                                            | 2.54  |

Note: This Table shows the mean of the skills dimension of DL vs. TL for each statement per country.

| Country        | S29: The quality of the assessment tools | S30: The quantity of the assessment tools | S31: The process of evaluating my performance | Total |
|----------------|-----------------------------------------|------------------------------------------|--------------------------------------------|-------|
| France N = 313 | 2.79                                    | 2.52                                     | 2.5                                       | 2.60  |
| Jordan N = 79  | 2.37                                    | 2.47                                     | 2.09                                      | 2.31  |
| Oman N = 60    | 2.85                                    | 2.80                                     | 2.85                                      | 2.83  |
| Qatar N = 219  | 2.75                                    | 2.70                                     | 2.57                                      | 2.67  |
| Tunisia N = 75 | 2.68                                    | 2.44                                     | 2.04                                      | 2.39  |
| UK N = 36      | 2.33                                    | 2.25                                     | 2.50                                      | 2.36  |
| Total N = 782  | 2.63                                    | 2.53                                     | 2.43                                      | 2.53  |

Note: This Table shows the mean of the performance evaluation dimension of DL vs. TL for each statement per country.

| Country        | S32: Lecture Environment (i.e. relaxation, distraction etc.) | S33: I use the class’s recordings during my convenient time | S34: The level of my confidence | S35: Approaching the learning process the way I like | Total |
|----------------|-------------------------------------------------------------|----------------------------------------------------------|--------------------------------|---------------------------------------------------|-------|
| France N = 313 | 3.27                                                        | 4.38                                                     | 3.31                           | 3.72                                              | 3.67  |
| Jordan N = 79  | 3.49                                                        | 4.41                                                     | 3.61                           | 3.49                                              | 3.75  |
| Oman N = 60    | 3.70                                                        | 4.20                                                     | 3.60                           | 3.90                                              | 3.85  |
| Qatar N = 219  | 3.18                                                        | 4.30                                                     | 3.21                           | 3.11                                              | 3.45  |
| Tunisia N = 75 | 3.72                                                        | 4.20                                                     | 3.04                           | 3.16                                              | 3.53  |
| UK N = 36      | 3.20                                                        | 4.75                                                     | 3.67                           | 3.17                                              | 3.70  |
| Total N = 782  | 3.43                                                        | 4.37                                                     | 3.41                           | 3.43                                              | 3.66  |

Note: This Table shows the mean of the facilities and others dimension of DL vs. TL for each statement per country.
tions, while Elhaty et al. (2020) stated that there is a notable difference between teaching theoretical and practical courses online during the COVID-19 crisis.

In terms of understanding the theoretical content (S11 mean), respondents across all countries believe that there is no difference between DL and TL in relation to understanding the theoretical content, with means for all of the countries very close to 3, which means that “DL and TL are the same.” Our findings are broadly in line with those of Lloyd and Robertson (2012), who found that students are not satisfied with their outcomes in relation to practical materials, while there is a high degree of satisfaction for theoretical content.

In terms of achieving the course learning outcomes (S14), the sharing of course content by the instructor (S15), and utilizing the lecture time to cover the content, respondents from France, Qatar, Tunisia, and the UK believe that there is no difference between DL and TL. This contradicts previous research, such as that of Draus et al. (2014), who found that TL and face-to-face learning are more effective than DL in achieving a course’s learning outcomes. Tharapos (2021) also stated that faculty members should be trained to develop the course contents and delivery, which requires much time for development and affects the course learning outcomes. Sangster et al. (2020) also supported this idea and confirmed that the teaching and learning environment will be affected in the DL mode. Our results contradict previous research, suggesting that the COVID-19 pandemic is not affecting the coverage of the course and its learning outcomes. In addition, we believe that the new experience of DL has affected the understanding of course content rather than the pandemic itself. In light of the above discussion, we conclude that students are not in favor of DL compared to TL in terms of course content.

4.3.3. Interaction

Some prior studies have argued that the DL environment is an extremely useful tool via which students can demonstrate their capacities, skills, and class participation (Lenert & Janes, 2017; Mandernach, 2009). In addition, other researchers have found that the social (face-to-face) interaction between students and their instructors is a critical factor, the lack of which negatively influences their learning habits and environments (Ali et al., 2020; Beatson et al., 2021; O’Connell et al., 2022). We created statements (S17–S24) about the interaction between DL and TL (see Section 2.2). Our findings disagree with these prior findings, since the respondents are in favor of TL in terms of interaction, in all countries except France. Specifically, Table 7 shows that respondents are not satisfied with their interaction in a DL environment, with an average mean of less than 3, which supports the statement that “TL is relatively better” for the purposes of interaction with the instructor, other students, and for clarifying their questions through the instructor. These findings are in line with those of Swanson et al. (2015), who claimed that, in the absence of face-to-face communication, DL students usually face communication and socialization problems. Ali et al. (2020) also elaborated that several challenges related to engaging students in online learning exist. They emphasized that the shift from the face-to-face environment to online was not easy, especially when it comes to interaction. In contrast, however, Mandernach (2009) argued that interaction in the DL delivery mode helps to increase engagement and to pinpoint students’ capabilities and skills. These findings also contradict those of Hussin et al. (2019) and Sangster et al. (2020); these authors found that more questions were asked and there were more activities that create collaborative learning in the DL environment than in the TL environment. In alignment with this, France is the only exception in our findings, since the French statements have a mean value slightly above 3, which indicates that “DL is relatively better.” In the open-ended questions, one respondent from France stated that “I feel more comfortable [using DL] to ask questions of the professors than directly [direct visual and/or aural contact], even if they are not seen in some lectures, I do feel shy to ask questions, but I believe that, in DL, I am not shy to type a question.”.

In some countries, such as Jordan and Tunisia, the interaction through DL is weak, with TL strongly favored since none of the statements are above 2.5. These results are consistent with some prior studies that have found that one of the disadvantages of DL is the lack of interaction (Arkorful & Abaidoo, 2015; Draus et al., 2014; Swanson, 2010). According to Adnan and Anwar (2020), one of the major concerns associated with online learning is the lack of proper interaction between student and instructor. On the other hand, there are other views that are inconsistent with our results; Hussin et al. (2019), for example, asserted that online education can be used to encourage active interaction and create a collaborative learning environment.

4.3.4. Skills

In line with prior studies, we focus on the four most common skills (see Section 2.2.3) required to achieve courses’ learning outcomes in accounting and business studies (Sargent et al., 2011; Zhang et al., 2006; Zhu & Fleming, 2017). We created one statement for each skill (S25–S28), which reveal interesting results. Overall, the average mean (total) in Table 8 is close to value of 2, which supports the statement that “TL is relatively better” in terms of the necessary skills. This is in line with previous research, emphasizing that TL provides better opportunities to gain skills (Arkorful & Abaidoo, 2015; Draus et al., 2014).

Table 8 also shows some interesting results regarding each skill (statement). For instance, respondents from France, Oman, and Qatar believe that developing their communication skills (S25 mean) was not affected when their universities applied DL instead of TL due to the COVID-19 pandemic. These results are not in alignment with prior research, which has claimed that the adoption of DL as an emergency remote teaching mode is a good opportunity to gain professional and technical skills in terms of the students’ self-development capabilities (McGuigan, 2021; O’Connell et al., 2022).
McGuigan (2021) also considered the pandemic an opportunity that leads to increasing students' self-independence, thus increasing their awareness concerning self-development capabilities. This, according to McGuigan (2021), creates among students a self-learning environment that develops their professional skills (O'Connell et al., 2022). However, some prior literature has argued that this is dependent on the mode of DL delivery [synchronous (chat) or asynchronous (discussion board)] (Duncan et al., 2012; McBrien et al., 2009). For example, McBrien et al. (2009) found that students using synchronous-mode DL are satisfied with the quality of education, while Duncan et al. (2012) found that the synchronous mode improves overall course performance.

In line with the interaction dimensions' results, respondents from all countries strongly agree that “TL is absolutely better” in terms of developing teamwork skills; S26 has a mean of less than 2. This is likely due to social distancing during the pandemic, which affected human contact and social expression. Our findings thus contradict those of Robinson and Hullinger (2008), who found that teamwork skills improve through online interaction and discussion between the instructor and other students. On the other hand, respondents in all countries believe that their decision-making skills are improved in the DL environment (S27), with the mean value close to 4, representing “DL is relatively better.” The literature has justified this in terms of the students not being under so much pressure in the DL environment, where they have access to many sources and material, including recordings (Duncan et al., 2012; Swanson et al., 2015).

Finally, the results of the final skill (S28) align with our results for the course content dimension since students are struggling to understand the practical content of the course during the pandemic. Prior studies have highlighted that business and economics students have struggled to pass courses because DL adversely affects the development of the skills required for problem-solving (Arkoful & Abaidoo, 2015; Draus et al., 2014; Swanson et al., 2015). This, as previously mentioned by Tharapos (2021), may justify the importance of a quick response during the pandemic to help instructors to innovate and develop better delivery of the practical course content.

4.3.5. Performance evaluation

Prior studies have found that the DL can enhance the quality and quantity of the assessment tools (Sargent et al., 2011). Most respondents agree that “TL is relatively better” in terms of the assessment tools’ quality, quantity, and the process of evaluating their performance in all countries. Specifically, Table 9 shows that these performance-evaluation statements (S29–S31) are lower than the middle value of 3 (on average, they believe that “TL is relatively better”), although this differs slightly between countries. It is noticeable that in countries such as Jordan, Tunisia, and the UK, the results are less than 2.5, indicating dissatisfaction with performance evaluation through DL and a preference for TL. According to Fogarty (2020) and White (2021), cheating is an increasingly common issue in DL as emergency remote teaching. This affects performance evaluation processes and violates the fairness and integrity of the assessment during the COVID-19 era. Fogarty (2020) found significant changes and amendments in the assessment tools when designing accounting courses, which negatively affects the assessment tools and the performance evaluation.

Our results thus suggest that students, during the COVID-19 pandemic, do not feel that their performance is being evaluated properly. In contrast, some prior literature has asserted that the evaluation process can be developed through online learning; Sangster et al. (2020), for example, explained the potential benefits of transitioning from a traditional closed-book format to an open-book assessment format. The literature suggests that there is a difference in performance evaluation dependent on the DL delivery mode (synchronous or asynchronous). For instance, Perera and Richardson (2010) found that the quantity of material accessed via asynchronous forums differs from that accessed through asynchronous forums, which influences the final examination performance (see also Duncan et al., 2012). Prior research has found that the number of assessment tools increases when using DL as an emergency remote teaching mode (Fogarty, 2020; White, 2021). White (2021) claimed that this is due to the fact that students can easily access the online platform from their homes, as well as due to availability of user-friendly websites (i.e. Socratic and Kahoot) that enables easy design, delivery, and evaluation.

Thus, we believe that the perceptions of undergraduate students exposed to DL for the first time can verify and enhance the findings of prior studies, allowing further generalizations, since the current global pandemic is affecting global perspectives regarding DL performance evaluation, including its quantity and quality. This may lead to a focus on implementing performance-oriented programs/software to support accounting students’ access to proper higher-education performance-evaluation schemes.

4.3.6. Facilities and other criteria

According to Adnan and Anwar (2020), the sudden shift from TL to DL is causing many challenges and leading to a completely different learning experience in higher education (see also Sangster et al., 2020). In our paper, interestingly, facilities and other criteria overall (total mean) show contrasting results compared to the previous dimensions, with results clearly showing that “DL is relatively better” compared to TL in terms of the lecture environment, recordings, confidence, and learning process (S32–S35). Specifically, Table 10 shows that respondents across all countries believe that “DL is relatively better” in S32, S34, and S35, since the average score is over 3, while S33 shows that “DL is absolutely better”, with an average score over 4. This may be evidence of some of the advantages of the blended and online learning environment that may continue to emerge in the future. This is consistent with the notion that DL creates an environment where “student-centred learning communities” are created (Duncan et al., 2012, p. 5). According to Duncan et al. (2012), this environment encourages a co-created learning processes, assuming that the instructor is only a facilitator and no longer an information provider.
Prior research has also revealed that DL enhances students’ self-confidence as it allows students to access lectures from home (Apostolou et al., 2021; Fogarty, 2020). Fogarty (2020) emphasized that the DL environment is more flexible for students as they can approach their lectures how they wish, enabling them to access recordings at different times and in different places. In contrast, McBrien et al. (2009) explained that, while this learning process is difficult in TL, it is even more difficult in DL. Some prior studies have argued that distractions caused both by students and instructors represent a challenge for the DL process, negatively affecting the learning atmosphere, as well as the willingness of the students to watch (and re-watch) the recordings (Fogarty, 2020). This may be because DL has been used as a response to the new situation (emergency remote learning) that has affected both the atmosphere of the lecture and students’ perceptions (Fogarty, 2020).

Interestingly, our results raise important questions regarding the TL system in place before the crisis, highlighting the importance of using technology to deliver educational services. Some scholars have argued that such positive views of DL during the COVID-19 pandemic can overcome many of the barriers to online learning, or at least reduce resistance to using technology to deliver education (see Sangster et al., 2020). Our results are consistent with previous studies, which have found that students feel relaxed, have a stronger experience and greater knowledge, and feel more confident and satisfied when studying from home (Draus et al., 2014; Griffiths & Graham, 2009).

5. Conclusion

The DL transition process as emergency remote teaching, as well as the dimensions of learning, have been investigated to check the views of the respondents regarding DL vs. TL. Regarding the transition to DL, we conclude that students are not satisfied with DL in general, but that the DL transition process as emergency remote teaching has been generally efficacious across all countries. The results show that DL has many advantages and has helped, during the pandemic, to ensure the continuation of the educational process. This is consistent with Fogarty (2020) and Sum et al. (2021), who claimed that DL advantages include space saving, reduced infrastructure costs, and reduced traffic and the associated traveling hazards. Moreover, Sangster et al. (2020) emphasized that, although instructors may not be happy with the new educational method, they believe it can deliver the educational message.

Regarding the learning dimensions, interestingly, our results show that there are differences in acquiring knowledge through DL between theoretical and practical courses. We hence conclude that DL may therefore work effectively in the future for theoretical courses, but not for practical courses. In this research, we only investigated students studying through the synchronous mode; however, some researchers believe that the variation between the two types of knowledge (practical or theoretical) is also dependent on the type of the DL mode (synchronous or asynchronous) and that this affects students’ overall performance (Duncan et al., 2012; McBrien et al., 2009). Consequently, we recommend searching for better methods to evaluate students, as the results also show that students are not happy with the way they are evaluated. In this regard, Sangster et al. (2020) explained that effective course assessment is important and there should be various specifications to protect academic integrity. Their study also suggested that universities should invest more in enhancing technology skills and knowledge both among instructors and students. This is also supported by previous research claiming that skills and access to facilities significantly affect both the atmosphere of the lecture and students’ perceptions (Fogarty, 2020; Sangster et al., 2020). These studies also emphasized that students boost their self-confidence in the DL environment as they have access to live lectures and recordings. It is also recommended that academics be connected with professionals to discover better methods that can improve the delivery of DL. Suryawathy and Putra (2016) highlighted that there is a need for cooperation between accounting academics and professionals. Additionally, prior research has argued that accounting educators and practitioners are now aware of the need for change and the revision of the curricula (Allison, 2007). We also conclude that the COVID-19 pandemic has strongly influenced our lives, especially in higher education, since students face challenges with communication and socialization during the pandemic as well as adopting DL; students encountering DL for the first time often exhibit confusion.

This research provides practical implications in a global context. First, this study is a response to the call for research on the impact of the COVID-19 pandemic on society and education. In this context, it is important to analyze the impact of DL’s adoption in accounting. Second, it provides insights, recommendations, and useful information concerning the pandemic relevant to the future of the educational system, to university decision-makers, and to global organizations regarding the use of better educational methods in the future. Specifically, the study shows that DL is an opportunity for students to develop technology skills that add to their overall skillset, while also reducing operating costs. It is also worth mentioning that, in the long term, DL may have negative implications for students’ skills and learning outcomes (Sangster et al., 2020). This research shows the weakness of DL in many dimensions, including interaction between students and instructors. The current research also shows differences between students’ satisfaction in developing and developed economies, which is an aspect that has been largely overlooked.

We also stress that this research has some limitations. For example, in the data-collection process, we focused on accounting students without narrowing the focus to a specific course or year group and without seeking instructors’ points of view regarding DL during the pandemic. Thus, future research could focus on students from a specific accounting course or year group, or examine instructors’ experiences of DL during the pandemic. Another research limitation is that a non-response bias test was not applied because the data collection was based on the researchers’ connections and networks, whereby data were not collected simultaneously, and it was difficult to separate early from late respondents. However,
the questionnaires were available from the end of March 2020 until the end of May 2020 only, which is a short period and thus may lead to the conclusion that non-response-bias testing was difficult to perform and not necessary. In addition, gender was not analyzed in this research due to the convenience sampling technique employed; we had no control over participants’ gender (van de Vijver, 2015) and any analysis based on gender might be biased (Saunders & Lewis, 2012; van de Vijver, 2001) as most of our respondents were female. Further, we did not investigate differences between universities in the same country, as this was not the scope of this research (our scope was to provide cross-country empirical evidence); hence, future studies may consider investigating this further. Future research may aim to obtain in-depth information using a qualitative method, such as interviews, which may reveal new insights and provide further understanding of the results. Finally, although our sample is relatively diverse (different countries and backgrounds on three continents), we suggest future research to investigate more countries, which may yield different results, such as the countries of East Asia (e.g. Malaysia) and the US; without such further investigation, we cannot guarantee that our study provides a truly global perspective. However, we believe that our study provides a generalizable perspective that reflects a sizeable portion of the globe.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. The questionnaire

Consent Form

The main objective of the current study is to examine the perspectives of undergraduate accounting students on the transition to distance learning (DL) from traditional learning (TL) during the COVID-19 pandemic, as well as the learning dimensions of DL compared to TL. Your consent is required to participate in this study by clicking next on the online survey that we have prepared on Google Forms. If you agree to participate, you will be asked to fill in the questionnaire survey. The process will take approximately 10–15 min of your valuable time. The survey has five sections to be completed. However, in case you have prior experience in distance learning during your studies at the university, kindly, please discontinue the questionnaire.

You have the right to withdraw at any point during the survey and all collected data will be erased accordingly. Personal information will not be collected during this study. Moreover, this survey is for academic research purposes, the authors do not have permission to share data beyond the data that will show within the final publication. Any information that has the potential of exposing the participant’s identity or university will be removed from the final publication. The current research aims to compare the results on a country basis rather than a university basis within a specific country.

I am willing to participate in this study. I have understood and agreed to participate in this study with a full understanding of its objectives and its consent form. By clicking next, you agree to participate in the questionnaire.

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Section 1: General and demographic information:

1- The country of your study.
   (Drop-down list function on Google Forms: France, Jordan, Oman, Qatar, Tunisia or United Kingdom).
2- University (for purposes of data source tracking only).
   (Add a comment function on Google Forms).
3- Gender.
   (Drop-down list function on Google Forms: Male or Female).
Section 2: Software usage.

(2-dot-horizontal multiple-choice function while ‘Other programs’ is add a comment function on Google Forms).

| Which one or more of the following online programs your instructor is using? |
|---------------------------------------------------------------|
| Blackboard Collaborate Ultra | Yes | No |
| Microsoft Teams | Yes | No |
| Wehe | Yes | No |
| Zoom | Yes | No |
| Echo 360 | Yes | No |
| BBB | Yes | No |
| Other programs “name it” |

Section 3: Your perspectives about Distance Learning transition process.

(5-dot-horizontal multiple choice function on Google Forms).

| Based on your current experience in Distance Learning (DL), to what extent do you agree with the following statements |
|------------------------------------------------------------------------------------------------------------------|
| 1- The transition process to distance learning in my university is efficient | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| 2- During my distance learning experience, the university supports me when I need help | |
| 3- This experience has enriched my knowledge with skills in the field of technology and distance learning | |
| 4- Recording lectures enables me to refer to them again, and this enhances my understanding | |
| 5- I face technical problems during the distance learning process | |
| 6- The internet is slow due to network heavy load | |
| 7- I face problems during the online assessment tools (quizzes, exams) | |
| 8- I am confused/distracted because instructors use different programs for distance learning | |
| 9- Distance learning meets my expectation | |
| 10- I prefer to implement distance learning in the future | |

Section 4: Distance Learning Compared to Traditional Learning (Dimensions).

(5-dot-horizontal multiple choice function on Google Forms).

| Distance Learning (DL) compared to Traditional Learning (TL) in terms of |
|------------------------------------------------------------------------|
| TL is absolutely better | TL is relatively better | Both are the same | DL is relatively better | DL is absolutely better |
| Dimension 1: Course content |
| 11- Understanding theoretical content | |
| 12- Understanding practical content | |
| 13- The coverage of the course syllabus | |
| 14- Achieving the Course Learning Outcomes | |
| 15- Ease of sharing content with instructor during the lecture | |
| 16- Utilizing the lecture’s time to cover the content | |
| Dimension 2: Interaction |
| 17- My interaction with the instructor | |
| 18- My interaction with other students | |
| 19- The instructor is answering my questions clearly | |
| 20- The instructor is answering my questions timely | |
| 21- The instructor recognizes my skills and capabilities | |
| 22- The instructor gives me valuable feedback on my assignments | |
Section 4 (continued)

| Distance Learning (DL) compared to Traditional Learning (TL) in terms of | TL is absolutely better | TL is relatively better | Both are the same | DL is relatively better | DL is absolutely better |
|------------------------------------------------------------------------|-------------------------|------------------------|------------------|------------------------|------------------------|

23– The instructor efficiently allocates office hours
24- The instructor sufficiently allocates office hours

Dimension 3: Skills
25- Developing my communication skills
26- Developing my team work skills
27- Developing my decision-making skills
28- Developing my skills in solving exercises and problems

Dimension 4: Performance Evaluation
29- The quality of the assessment tools
30- The quantity of the assessment tools
31- The process of evaluating my performance

Dimension 5: Facilities and others
32– Lecture Environment (i.e. relaxation, distraction...etc)
33– I use the class’s recordings during my convenient time
34- The level of my confidence
35- Approaching the learning process the way I like

Section 5: Open-ended Questions (Add a comment function on Google Forms).

Based on your distance learning experience, if possible, provide three advantages for distance learning. (Kindly, write “None” if you do not have any inputs)

1. ..............................................................................................................
2. ..............................................................................................................
3. ..............................................................................................................

Based on your distance learning experience, if possible, provide three disadvantages for distance learning. (Kindly, write “None” if you do not have any inputs).

1. ..............................................................................................................
2. ..............................................................................................................
3. ..............................................................................................................

Based on your distance learning experience, if possible, suggest three improvements for distance learning. (Kindly, write “None” if you do not have any inputs).

1. ..............................................................................................................
2. ..............................................................................................................
3. ..............................................................................................................

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