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The Effectiveness of E-Learning in Learning French Language during the COVID19- from the perspective of Bahrain University students

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Abstract

This exploratory study was conducted at the beginning of the COVID-19 outbreak in March 2020. It aimed to evaluate the e-learning model and its effectiveness in learning French as a Foreign Language during the COVID-19 pandemic from a student's perspective. The effectiveness of e-learning was measured through students' perceived satisfaction and the learning outcomes. The study adopted a quantitative approach that employed online survey-based data collection instruments administered to undergraduate students of French at the University of Bahrain. The findings showed that despite the emergency online teaching, students highly perceived satisfaction with the e-learning experience: they were satisfied with e-learning interactions, despite their preference toward traditional learning; they expressed a strong sense of e-learning community as well as an improved level of self-efficacy with the Blackboard, for which they expressed a positive attitude toward its effectiveness and usefulness. The findings also showed that students' performance was not negatively affected by the e-learning, which appeared to be as effective as traditional learning during COVID-19. Most students highly perceived language skills progress in their reading comprehension, speaking, and listening skills thanks to the online content. However, students did not perceive e-learning as enhancing their writing skills. The study recommends that further research should consider other foreign language e-learning contexts to gain further insight on its effectiveness for foreign language learning and teaching during COVID-19.

Keywords: E-learning, language learning, French as a foreign language, effectiveness, satisfaction.

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فعالية التعليم الإلكتروني في تعلّم اللغة الفرنسية أثناء جائحة فيروس كورونا من منظور طلاب جامعة البحرين

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الملخص

تم إجراء هذه الدراسة الاستكشافية في بداية تفشي جائحة كورونا في مارس 2020. هدفت الدراسة إلى تقييم نموذج التعلّم الالكتروني ومدى فعاليته لتعلّم اللغة الفرنسية كلغة أجنبية أثناء الجائحة من منظور طلبة مركز الدراسات الفرنسية بجامعة البحرين. تم قياس فعالية التعلّم الإلكتروني من خلال استقصاء آراء الطلبة ونتائج مخرجات التعليم. تبنت الدراسة المنهج الكمي واستخدام أدوات جمع البيانات المستندة على الاستبيان الالكتروني واستخدام المنهج الوصفي في تحليل المعطيات. أشارت نتائج الدراسة درجة رضا مرتفعة عن تجربة التعلم الإلكتروني: فقد كان الطلبة راضين عن تفاعلات التعلم الإلكتروني، على الرغم من تفضيلهم للتعلم التقليدي؛ ولقد عبروا عن إحساس قوي بمجتمع التعلم الإلكتروني بالإضافة إلى تحسن مستوى الكفاءة الذاتية لاستخدام منصة Blackboard، حيث عبروا عن فعالية وفوائد استخدام هذه المنصة في تعليمهم أثناء الجائحة. أظهرت النتائج أيضًا أن أداء الطلاب لم يتأثر سلبًا بالتعلم الإلكتروني، والذي بدا أنه فعال مثل التعلم التقليدي. معظم الطلبة أظهروا تطوراً كبيراً في بعض المهارات اللغوية كالفهم القرائي والمحادثة والاستماع بفضل المحتوى الالكتروني. ومع ذلك، لم يعزز التعلم الإلكتروني مهارات الطلبة في الكتابة. توصي الدراسة بإجراء المزيد من الأبحاث للنظر في أثر التعلم الإلكتروني لتعليم اللغات الأجنبية الأخرى خلال فترة الجائحة للحصول على مزيد من المعرفة حول فعاليتها في تعلم اللغات الأجنبية وتدريسها..

الكلمات المفتاحية: التعلّم الإلكتروني، تعلّم اللغات، اللغة الفرنسية كلغة أجنبية، فعالية، رضى.

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1. Introduction

Measuring the effectiveness of e-learning during the COVID-19 pandemic became a critical issue due to its nature as an emergency as described by Maclntyre, Gregersen, and Mercer (2020), to ensure the quality of teaching and learning (Dhawan, 2020; Wei, 2020), and to be seriously concerned about the equity implications of a pivot to online instruction (Reich, 2020). Hence, most studies focused their investigations on students' satisfaction, performance, and perception of the effectiveness of e-learning. Khalil et al. (2020), for example, explored undergraduate students' perceptions and satisfaction levels regarding the effectiveness of synchronized e-learning at universities in Saudi Arabia. Their findings proved that the online modality was well received by students. They found that online sessions were time-saving and that their performance improved. The authors concluded on the importance of rigorously and regularly evaluating the principles of the e-learning model and learning outcomes to monitor its effectiveness. Furthermore, Gonzalez et al. (2020) analyzed the effect of COVID-19 confinement on the learning performance of students in higher education in Spain. Their findings showed that there is a positive effect on student's performance because their learning strategies changed into a more continuous habit of autonomous learning, which improved their efficiency. In Eastern universities, a research study at the University of Beijing assessed students' level of satisfaction with e-learning and

their perception of the effectiveness and credibility of course content for e-learning (Demuyakor, 2020). Their findings demonstrated that students highly agreed with the effectiveness of e-learning and were satisfied with the learning resources available. Demuyakor concluded that successful and effective e-learning mainly depended on how the contents of the courses are designed, the interaction, and the availability of learning materials (2020, p. 7). His conclusion validates the findings of other studies that took place in universities in Pakistan (Sarwar et al., 2020; Adnan & Anwar, 2020; Mahmood, 2020), which also aimed to find the general attitudes of undergraduate students toward compulsory digital and e-learning. The authors found that students expressed dissatisfaction with various components of online teaching and that they highly disagreed with the effectiveness of online classes due to the lack of proper interaction and contact between students and instructors, the lack of sufficient educational online resources, and the lack of public institutions' technological preparedness, which were related to monetary issues. These findings were also observed by Kapasiaa et al. (2020) during their research study to identify the learning status, mode of learning, and problems of students of higher education in West Bengal during the lockdown of COVID-19. Their findings revealed that students, especially those from vulnerable sections of society, were facing many challenges and problems related to depression, anxiety, poor internet connectivity, and an unfavorable study environment at home.

Furthermore, some studies focused on the usage of e-learning systems during the COVID-19 pandemic, putting forward the critical challenges faced by e-learning systems (Dhawan, 2020), such as Blackboard, as well as the factors that could support the usage of such e-learning systems. Almaiah, Al-Khasawneh, and Althunibat (2020) conducted a study that took place in universities in Saudi Arabia and Jordan. According to their findings, they concluded that students' acceptance of e-learning is one of the main criteria for the success of an e-learning system. This conclusion was agreed upon and was also confirmed in the findings of Raza, Qazi, Khan, and Salam (2020) during their study about the impacts of social isolation and fear of COVID-19 on the use of learning management

systems among students. It revealed that e-learning technology acceptance among students in higher education varies from country to country and that in Middle Eastern universities, the level of acceptance seems low.

2. Literature review

Technology use in language education has remarkably increased during the last decade. Many studies investigated the effectiveness of technology for language education: some studies investigated the effect of e-mail-based activities on the development of writing skills (Hertel, 2003); other studies investigated the use of synchronous chat for the development of communication skills (Lee, 2002); many other studies explored the effect of videoconferencing on language learning (Coverdale-Jones, 2000); and the role of telecollaboration (Belz, 2001). It has also been proven that networking sites such as Facebook could create interactive language-learning environments. Stepp-Greany (2002) stated that the use of technology in language learning has two types of benefits for students: affective benefits such as increased motivation, active participation, and interaction; and linguistic benefits such as the improvement of speaking, reading, and listening skills (Chi-Jen & Gwo-Jen, 2018) and vocabulary acquisition (Fung-Chuan & Wen-Chi, 2015). Furthermore, it has been suggested that the use of web-based materials and multimedia could enhance students' knowledge of cultures (Rogers, 2002). According to Karabulut et al. (2012), students tend to have positive attitudes toward technology-enhanced language learning. Nevertheless, some studies have proven that online classes might create a high level of anxiety (Ushida, 2005; Kapasiaa et al., 2020) that might hurt students' learning.

Accordingly, e-learning can be as effective as traditional instruction depending on factors and variables such as learners' characteristics, instructional structure, and interaction (Liaw S.-S., 2004). Noesgaard and Orngreen (2015) explain that individual factors related to learners' characteristics such as experience and motivation have an impact on the effectiveness of e-learning because they determine the attitude of the learners, which may either increase or decrease effectiveness (Noesgaard & Orngreen, 2015, p. 285). Interaction and practice were also mentioned

as critical factors to the effectiveness of e-learning because learners value interaction with instructors are allowed to practice the educational material by applying the skills in e-learning. When learners increase their chance of interacting with peers and instructors, they build their knowledge. Moreover, the variable of the classroom size scale in online language learning appeared important to its effectiveness according to Russell and Curtis (2013), who proved that small-scale online language courses are more often to be more effective than large-scale ones.

The effectiveness of e-learning is also related to students' perceived sense of community (Baturay, 2011), which is defined as a "feeling of belonging and a feeling that members matter to one another and to the group and share a faith that their needs will be met through their commitment to being together" (Rovai, 2002, p. 198). It briefly describes the distance students perceive between instructors, peers, and institutions (Baturay, 2011). Rovai (2002) stated two important aspects of the e-learning classroom sense of community: connectedness and learning. He defines learning from this point of view as learners' feelings regarding interaction with each other as they pursue the construction of understanding, that knowledge and meaning are actively constructed within the community, and that it enhances the process of learning. One of the main challenges in e-learning is how to establish and maintain a sense of classroom community. According to Tinto (1993), students will increase their level of satisfaction if they feel involved in the learning community and develop relationships with other members. Some researchers have proven that a strong sense of community may increase students' persistence in courses and their commitment to group goals, cooperation among members, satisfaction with group efforts, and motivation to learn (Rovai, 2002, p. 321). Therefore, one of the essential elements in building a sense of e-classroom community is social and intellectual interaction via various interactive media (Dede, 1996). Rovai (2001) gave evidence that e-learning systems plus pedagogy can result in a virtual learning environment that promotes an e-classroom community and emphasized that it depends on the online instructors and the way they design their courses and use interactive teaching. In addition, Abulibdeh and Syed Hassan (2011), find that interaction is one of the main

factors affecting students' e-learning satisfaction. They believe that the difference between interaction in an e-learning educational environment and in traditional educational settings is mainly in the medium. Interaction in online educational environments has been categorized into different levels according to several criteria. According to Moores' (1989) and Hirumis' (2006) communication-based taxonomies, there are four levels of interactions when it comes to e-learning: 1) learner-learners; 2) learner-instructor; 3) learner-content, which involves pedagogical tools and assignments that include computer technology; and 4) learner-interface interaction, which acts as the means of the interaction, including students use of technology tools and navigational aids (Hillman, Willis, & Gunawerdena, 1994). In other words, all communication and interactions become mediated by the interface with which students must interact each time they wish to perform a task in the computer-mediated environment (Abulibdeh & Syed Hassan, 2011), and for which they must be skilled in manipulating. Therefore, technology self-efficacy has a similar impact on e-learning effectiveness (Joo, Bong & Choi, 2000). Self-efficacy in e-learning refers to the beliefs of students about their confidence in using computer technologies. Studies have proven that as students demonstrate skillful manipulation of the e-learning system, they may demonstrate a more positive attitude toward e-learning (Joo, Bong & Choi, 2000, p. 6); especially, students need to digest the material they acquire through the e-learning system through successful maneuvering of the system. Students who do not express confidence in an e-learning system may not be as satisfied as those who express confidence. Consequently, students' self-efficacy with the blackboard system is a subject of investigation in this research as an important parameter for measuring the effectiveness of e-learning and students' satisfaction.

The term effectiveness is understood as the transfer of learning, which positively impacts teaching practices (Noesgaard & Orngreen, 2015, p. 280). Most studies use learning outcomes and satisfaction in their definition of effectiveness (Boghikian-Whitby & Mortagy, 2008). On one hand, in higher education, effectiveness is examined by 'learning outcomes' (Noesgaard & Orngreen, 2015). Learning outcomes appear when learners

acquire new skills and can apply the content. Rovai et al. (2008) highlight the need to not only investigate students' perceived satisfaction but, most importantly, evaluate students' learning outcomes to determine their impact on learning. On the other hand, according to Liaw (2008), the measurement of e-learning must incorporate different aspects of students' perceptions to form a useful diagnostic instrument. Furthermore, it was seen in other research studies that self-reports of learning or perceived learning can be a valid measure of learning, especially in higher education. Rovai et al. (2008) believe that it is important to develop an instrument that could be used to measure e-learning effectiveness in its three components: cognitive, affective, and psychomotor (Rovai, Wighting, Baker & Grooms, 2008, p. 8). These aspects are considered in the current study, for which cognitive learning is measured through students' learning outcomes; affective learning is investigated by gathering information about students' perceived satisfaction with e-learning; and psychomotor learning is explored through the learners' self-efficacy of the Blackboard system.

3. Aims and research question

The current study aims to investigate undergraduate students' perceptions of the e-learning experience and measure its effectiveness in achieving effective language learning to develop French language skills during the COVID-19 pandemic at the University of Bahrain. It aspires to answer the following research question:

How effective was the e-learning for learning French as a foreign language during COVID-19?

4. Methodology

4.1. Sample

350 undergraduate students enrolled in 10 different French courses during the second semester of the academic year 2019–2020 were approached to participate in this study. The total number of respondents who participated in the first survey was 120, and 101 students participated in the second survey. The participants were Bahraini undergraduate students between the ages of 18 and 25 years old, of whom 16% were male and

84% were female. 38 students out of 102 students were taking French as an elective subject, and 64 students out of 102 students were taking French as a minor subject. Therefore, the sample was composed of students with different levels of French language proficiency: French elective students are beginners in French, while French minor students are at an intermediate and advanced level in French (A2–B1 level according to the CEFRL). In addition, 76% of the students stated being new to the e-learning system, and 24% stated having had prior experience with e-learning classes prior to the pandemic.

4.2. Data collection instruments

To measure all aspects of the effectiveness of e-learning, the current study uses a quantitative approach. It employs four data collection instruments that are mostly online survey-based and conducted through Google Forms:

- a survey about students' perceived e-learning satisfaction,
- a survey about students' perceived e-learning effectiveness,
- students' final grades,
- students' self-reports about the perceived learning outcome achievement,

Links to the surveys were shared with students through e-mails, and participants provided full consent before participating in the study.

4.2.1. Students perceived e-learning satisfaction survey

According to Sarwar et al. (2020), the success of e-learning can be evaluated by measuring students' perceptions. Based on that, a survey was conducted in March 2020 to gather information about students' experiences and perceptions of the shift to e-learning. The survey consisted of four sections. The first section gathered general information about the students (age, gender, college, and subject of study). The second section explored the students' e-learning experience background and their perceived self-efficacy with the Blackboard system (Appendix 1). The survey also inquiries about students' IT infrastructure and the type of teaching materials used during their e-learning experience. The third section investigated the perceived satisfaction of interaction. As for the last section, it gathered

information about students' perceived satisfaction with e-learning. As this survey was used in the early phase of the sudden shift as a pilot survey, the results obtained from the survey as well as some literature reviews helped conceptualize and design the second survey given to students to investigate their perceived e-learning effectiveness.

4.2.2. Students perceived e-learning effectiveness survey

This second survey was administered in May 2020 (Appendix 2). The design of the survey was based on a literature review and previous research surveys; the items about students' perceived e-learning effectiveness and behavioral intention were adopted from Liaw (2008). The items on students' perceived e-learning satisfaction were adopted from Lin (2011), and the items on students' perceived e-classroom sense of community were adopted from Rovai (2002). The survey consisted of nine sections. The first section gathered general information about the students. The second section contained five questions about the learning outcomes: students had to rate how much they had learned during their online French courses using a rating scale (0–9) and whether they thought that they had improved their language skills. The third section contained four questions to measure students' perceived satisfaction with the online interaction. The fourth section contained questions gathering information about students' attitudes toward the multimedia instructions. The fifth section had ten questions exploring the learning support that students got through that experience and their attitude toward it. The sixth section contained 19 questions investigating students' perceived e-learning effectiveness and usefulness. The seventh and eighth sections investigate students perceived self-efficacy (six questions) and their attitude toward the quality and efficiency of the e-learning tools (five questions). The last section contained ten questions to explore students' classroom sense of community. For thèse items, we used a 5-point Likert Scale.

4.2.3. Student's final grades

Grades are used as a means of communicating assessments of students' competencies and, indirectly, their learning outcomes. According to

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Khalil et al. (2020), assessing students' performance in an online course requires a representative set of face-to-face courses to be compared to a similar set of online courses. This method of data collection was also adopted by Canals (2020) in her study about the effect of virtual exchange on oral skills: she examines the development of oral skills by collecting and comparing learners' oral grades in the study before and after the virtual learning environment, then opts for a statistical test with the data. Accordingly, the effectiveness of e-learning on students' French language performance was also measured in the current study through a comparison of the statistical results of final grades. Students' final grades during the e-learning courses were exported from the Blackboard grade center, and they were compared to their final grades of the previous semester during traditional learning courses. The grades were out of 100 and understood, during the online courses, three e-quizzes, e-assignments, a project, and Blackboard participation. During the traditional learning courses, the grades collected from the universities' student information system were based on a quiz, three tests, a project, and the participation of the students during the lectures. The grades were then converted into the University's' grading scale, as follows:

Table 1
Grading scale of the University of Bahrain.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Mark	90-100	87-89	84-86	80-83	77-79	74-76	70-73	67-69	64-66	60-63	<60

The results are presented as a figure, which shows the pre- and post-final grade scores calculated and converted to the five categories of grading: A, B, C, D, and F.

According to Caspersen et al. (2017), grades are to be seen as the traditional way of measuring outcomes in higher education; therefore, the current study does not content itself with the comparison of the final grades but, in complement, measures the learning outcomes via the students self-report of learning outcomes during the e-learning experience.

4.2.4. Students self-report about the perceived learning outcomes achievement

The use of students' self-report on learning is based on the theoretical point of view of Noesgaard et al. (2015) and Rovai et al. (2008) about the importance of measuring e-learning effectiveness throughout the learning outcomes. According to Caspersen et al. (2017), a typical approach to the measurement of outcomes is to ask students to assess their learning outcomes on a range of different variables, which can often be subsumed under different dimensions (e.g., knowledge, general competence, and skills). Based on that, an online survey was designed as a self-assessment containing the learning outcomes stated in their French courses' syllabus. The sample of students to whom we had access for this data collection were from three courses: all students of the French elective course (64 out of 350 students), and students of two French minor courses (21 students out of 33). They had to rate each item on a three-point scale (acquired, in process of acquisition, and not acquired), assessing the extent to which they had acquired various types of knowledge, skills, and competencies during their French online courses. This data collection was conducted after completing the courses in May 2020.

4.2.5. Data analysis

To analyze the quantitative data, the Statistical Package for Social Sciences (SPSS Statistics version 26) was used. A frequency descriptive analysis was adopted to report all the categories as frequencies, percentages, and means.

5. Results and discussion

5.1. Students perceived e-learning effectiveness

In a general sense, the results showed a high level of acceptance of e-learning systems during COVID-19 (Raza, Qazi, Khan, & Salam, 2020). The frequency analysis adopted on the items (10–26) showed that 50% of the students perceived e-learning as effective because it facilitates personalized learning. They highly perceived e-learning's effectiveness on their learning process as assisting their learning efficiency and performance, but they did not find e-learning to assist their learning motivation. This

finding does not support Stepp-Greany's (2002) evidence about e-learning's affective benefits and increased motivation. Additionally, students highly perceive the e-learning tool and content usability because it allows them to have access to the content and the possibility to review the lectures as many times as needed. This supports the findings of Bouhnik and Marcus (2006) and Redha et al. (2020) about the possibility that e-learning allows students to manage their learning activities, which is, according to Liaw, Huang, and Chen (2007), based on learner autonomy and interactive learning actions. Students found that e-learning enhanced their learning skills. Nevertheless, learning skills such as problem-solving and connecting theory with practice in real life were not highly perceived due to students' attitudes toward the type of interaction, as stated by Liaw (2008), in a virtual learning environment that might not help in developing such skills.

Table 2
Students perceived e-learning effectiveness

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q10. I believe e-learning can assist in learning efficiency.	9 (9)	36 (35)	19 (19)	28 (27)	10 (10)	3.06
Q 11. I believe e-learning can assist learning performance.	9 (9)	33 (32)	32 (31)	20 (20)	8 (8)	3.15
Q 12. I believe e-learning can assist learning motivation.	7 (7)	30 (29)	17 (17)	27 (26)	21 (21)	2.75
Q 13. I believe that learning content is informative.	14 (14)	43 (42)	30 (29)	6 (6)	9 (9)	3.46
Q. 14. I believe e-learning is a useful learning tool.	17 (17)	45 (44)	26 (25)	4 (4)	10 (10)	3.54
Q 15. I believe e-learning contents are useful.	16 (16)	51 (50)	19 (18)	10 (10)	6 (6)	3.60
Q. 16. Using the e-learning service, I can improve my learning performance.	12 (12)	42 (41)	24(23)	16 (16)	8 (8)	3.33
Q 17. Using the e-learning service, I can increase my learning ability.	15 (15)	32 (31)	31 (30)	18 (18)	6 (6)	3.31

Table 2

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q 18. Using the e-learning service, I can improve my learning effectiveness.	15 (15)	34 (33)	23 (22)	21 (21)	9 (9)	3.25
Q 19. E-learning offers me the opportunity to review the lectures as many times as I need to.	44 (43)	42 (41)	7 (7)	6 (6)	3 (3)	4.16
Q 20. E-learning offers me access to online course tools and materials.	36 (35)	58 (57)	5 (5)	-	3 (3)	4.22
Q 21. E-learning helps me use various e-learning resources.	29 (28)	53 (52)	15 (15)	2(2)	3 (3)	4.01
Q 22. E-learning helps me enrich my learning experience.	14 (14)	40 (39)	25 (24)	19 (19)	4 (4)	3.40
Q 23. E-learning helps me connect theory with practice in real life.	10 (10)	25 (24)	36 (35)	23 (23)	8 (8)	3.06
Q 24. E-learning Enables me to manage my learning activities	11 (11)	41 (40)	27 (26)	15 (15)	8 (8)	3.31
Q 25. E-learning helps me develop my problem-solving skills.	9 (9)	25 (25)	30 (29)	29 (28)	9 (9)	2.96
Q 26. E-learning Facilitates my personalized learning	8 (8)	43 (42)	22 (21)	21 (21)	8 (8)	3.22

5.2. Students perceived satisfaction with the e-learning Interaction

The findings demonstrated that the e-learning environment was characterized by social presence among the members, which is in correlation with the findings of Lim and Richardson (2021) about interaction and social presence. Items (57–58–38) of the survey gave an insight into students' overall perceived satisfaction with the interaction during the e-learning experience. Over 50% of the students were satisfied with the e-learning interaction, and they believed that e-learning enhanced peer interaction as well as instructor-student interaction.

Table 3
Students' attitudes toward e-learning interactions

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q57. I believe e-learning can assist teacher-learner interaction.	13 (13)	44 (43)	26 (25)	11 (11)	8 (8)	3.42
Q58. I believe e-learning can assist learner interaction.	6 (6)	46 (45)	32 (31)	13 (13)	5 (5)	3.34
Q38. I am satisfied with e-learning interaction.	16 (16)	37 (36)	19 (19)	20 (19)	10 (10)	3.28

According to the survey, 51% of the students found that they were able to engage during the e-learning experience as actively as they would in the face-to-face classroom. However, 49% of the students believed that the interaction with instructors and peers was not as active as in traditional learning settings. This could be, according to Abulibdeh and Syed Hassan (2011), because students did not fully utilize the collaboration tools of the Blackboard system; it could also result from a preference for meeting face-to-face rather than virtually or anxiety.

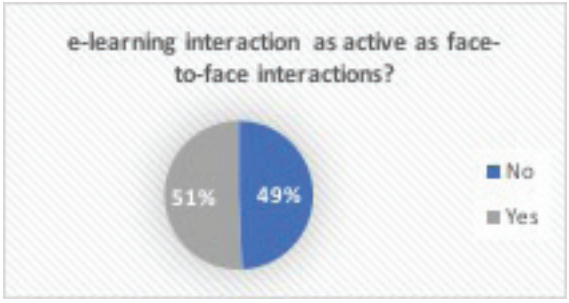


Figure 1
Students' attitude toward e-learning and traditional learning interactions.

However, written interaction was predominant over vocal interaction; the results demonstrated that 46% of the students stated that they interact with their instructors and peers through written messages, while 75% of

the students stated using both written messages and voice. Only 18% of the students reported using voice interaction. Correlating this finding with the result of item (53) in Table (4) showed that 40% of the students stated feeling reluctant to speak openly during e-lectures.

Table 4
Students' attitudes toward e-learning interactions

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q 53. I feel reluctant to speak openly	20 (20)	20 (20)	32 (31)	24 (23)	6 (6)	3.24

This observation supports Redha et al.'s (2020) findings about the importance of face-to-face teaching for practical learning, such as learning a foreign language that understands many practical aspects to develop communication skills.

On the other hand, students highly perceived their learner-content interaction: according to item (37) in Table (5), 15% and 44% of the students were satisfied with the e-learning content, respectively.

Table 5
Students perceived satisfaction of e-Learning Learner-content interaction

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q 37. I am satisfied with e-Learning content.	15 (15)	45 (44)	22 (21)	12 (12)	8 (8)	3.46

However, 29% of the students were not satisfied with the use of the e-learning function. This finding could be due to students' low level of self-efficacy, as 62% of the students expressed their difficulties with accessing and using the e-learning tools. It could also be related to connectivity speed,

as shown in item 36 in Table 6, where 40% of the students expressed facing problems related to poor internet connectivity (Kapasiaa et al., 2020).

Table 6
Students' perceived satisfaction of e-Learning learner-interface interaction

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q 35.I am satisfied with e-learning function	11 (11)	37 (36)	25 (24)	20 (20)	9 (9)	3.21
Q 36. I am satisfied with the internet speed	8 (8)	24 (24)	29 (28)	13 (13)	28 (27)	2.72

5.3. Students' perceived e-classroom sense of community

According to the results of the items (39–48) in Table (7), students had a strong sense of e-learning community and highly perceived their connectedness. It might be their perceived satisfaction with the e-learning interaction, which meets the result of Rovai (2001), and the nature of the e-learning environment, which was highly perceived by 53% of the students as attractive. On the other hand, the findings revealed that 32% of the students expressed not feeling isolated, while 37% stated feeling isolated during the e-learning experience. This result, which could be explained for some students by the distance of place and time, does not meet Rovais' (2002) result and correlation between the sense of community and the feeling of isolation, according to which online learners who have a stronger sense of community and perceive greater cognitive learning should feel less isolated and have greater satisfaction.

Table 7
Students perceived sense of e-classroom community

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q 39. The e-learning service provides an attractive learning environment.	15 (15)	28 (27)	24 (23)	14 (14)	21 (21)	3.02
Q 40. I feel that students in this course care about each other.	21 (21)	35 (34)	29 (28)	11 (11)	6 (6)	3.53
Q 41. I feel connected to others in this course.	11 (11)	39 (38)	32 (31)	11 (11)	9 (9)	3.31
Q 42. I do not feel a spirit of community.	7 (7)	19 (19)	34 (33)	35 (34)	7 (7)	2.84
Q 43. I feel that this course is like a family.	11 (11)	26 (25)	31 (30)	24 (24)	10 (10)	3.04
Q 44. I feel isolated in this course.	13 (13)	26 (26)	30 (29)	26 (25)	7 (7)	3.12
Q 45. I trust others in this course.	11 (11)	48 (47)	29 (28)	7 (7)	7 (7)	3.48
Q 46. I feel that I can rely on others in this course.	10 (10)	41 (40)	25 (24)	18 (18)	8 (8)	3.26
Q 47. I feel uncertain about others in this course.	7 (7)	14 (14)	49 (48)	27 (26)	5 (5)	2.91
Q 48. I feel confident that others will support me.	9 (9)	39 (38)	31 (30)	12 (12)	11 (11)	3.23

This data puts forward one of the limitations of the study, which is to investigate the reasons behind the feeling of isolation, which could be, as Raza et al. (2020) indicated, a result of the COVID-19 pandemic itself.

4.4. Students perceived self-efficacy with the learning management system

Students' self-efficacy was measured at two stages of the e-learning experience to investigate if students continued to face challenges in using the Blackboard. In March, the first survey revealed, as seen in the following figures (2 and 3), that 76% of the students did not have an e-learning experience, and it also revealed that 90% of the students were not trained

to use the Blackboard platform, while 10% of the students (16 out of 102) indicated that they self-trained via YouTube tutorials. Therefore, most of the students (66%) expressed facing challenges in using and accessing the Blackboard at that stage, and especially in using the Blackboard collaborate ULTRA to access their live online lectures. This supports the theory of Almaiah, Al-Khasawneh, and Althunibat (2020) about the correlation between factors and challenges, as it revealed that self-efficacy factors determine the level of technological challenges.

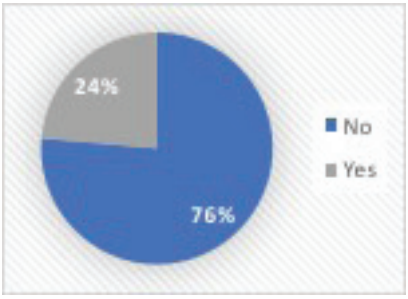


Figure 2

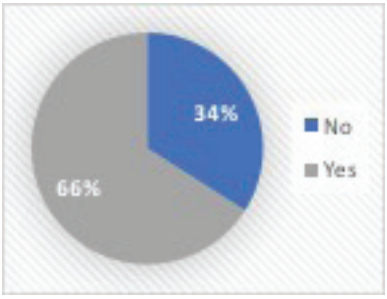


Figure 3

Students' e-learning experience Percentage of students facing challenges to access the e-classes.

Nevertheless, in May, the findings of the second survey showed that students were reported to have a high level of self-efficacy. According to Table (8), items (29–33) revealed that the majority of the students stated feeling confident with the e-learning management system and its maneuverability. These results prove that most of the students are starting to feel at ease and skilled with the Blackboard, which indicates, according to Alrahmi et al. (2018), students' acceptance and satisfaction of the e-learning experience.

Table 8
Students perceived Self-efficacy

n (%)						
Items	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Mean**
Q29. I feel confident using the e-learning system (the blackboard).	20 (19)	45 (44)	17 (17)	10 (10)	10 (10)	3.54
Q30. I feel confident operating e-learning functions.	20 (20)	45 (44)	20 (19)	10 (10)	7 (7)	3.60
Q31. I feel confident using e-learning content.	24 (23)	46 (45)	10 (10)	15 (15)	7 (7)	3.64
Q32. I feel that e-Learning service is very easy to navigate.	16 (16)	39 (38)	29 (28)	7 (7)	11 (11)	3.41
Q33. I feel it is easy to become skillful in navigating the e-learning service.	21 (20)	44 (43)	18 (18)	12 (12)	7 (7)	3.59

4.5. Students' perceived learning outcomes achievement

A descriptive statistic was also adopted for items 5 to 9 of the survey, which was to investigate students' perceived learning outcome achievement. Item (5) in Table 9 is a 9-point rating scale, for which zero means you learned nothing and nine means you learned more than in any other course you have had. This item had an insignificant mean score of 5.15, which demonstrates that over 50% of the students positively perceived their learning outcome.

Table 9
Students perceived learning outcomes

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Q 5. How much did you learn in your French e-course?	102	0	9	5.14	2.529

The items (6 to 9) in Table 10, investigating students' perceived language skills progress, demonstrated that the majority of the students perceived progress in their reading comprehension, speaking, and listening skills. Item (6) had a mean score of 1.49, which revealed that students did not perceive e-learning to enhance their writing skills. This may be related to the type of pedagogy that was used to develop students' writing skills that was not suitable for an e-learning environment.

Table 10
Descriptive statistics of students' perceived language skills progress

Items	N	Yes n %	No n %	Minimum	Maximum	Mean	Std. Deviation
Q6. Have you improved your writing skills?	102	50 (49.0)	52 (51.0)	1	2	1.49	.502
Q7. Have you improved your reading comprehension skills?	102	72 (70.6)	30 (29.4)	1	2	1.71	.458
Q8. Have you improved your listening comprehension skills?	102	65 (63.7)	37 (36.3)	1	2	1.64	.483
Q9. Have you improved your speaking skills?	102	68 (66.7)	34 (33.3)	1	2	1.67	.474

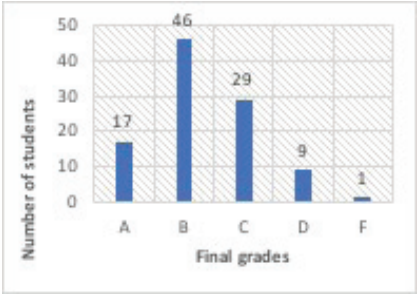
On the other hand, we approached students of three French courses to provide their self-reports of perceived learning to obtain more detailed information about their achievement in all areas of their French language learning. The self-reports of learning consisted of 32 items investigating all learning outcomes of the course, including language skills, vocabulary, and grammar knowledge, as well as cultural knowledge. The survey was a 3-point rating scale, for which 1 means (not acquired, 2 means (in the process of acquisition, and 3 means (acquired. To analyze the data, we adopted descriptive statistics to measure the means. The results revealed that students highly perceived acquiring the intended grammar and vocabulary Knowledge as well as the communicative skills, as presented

in Table 11 (Appendix 3). The results of Table 14 revealed that e-learning enhanced students' skills and knowledge to a high extent.

Table 14
Survey of students' perceived learning outcome

	N	Minimum	Maximum	Mean	%
Self-reports on students' perceived learning outcome (Communicative skills)	64	1	3	2.44	81
Self-reports on students' perceived learning outcome (vocabulary knowledge)	64	1	3	2.32	77
Self-reports on students' perceived learning outcome (grammar knowledge)	64	1	3	2.33	78

In addition to the findings of the survey and the self-reports on students' perceived learning outcomes achievement, the results of the comparative analysis of students' final grades during traditional learning (semester 1 2019/2020) and e-learning (semester 2 2019/2020) revealed that the level of passes compared to the level of fails did not reflect neither a problematic nor an abnormal situation that could be related to the sudden shift to e-learning.



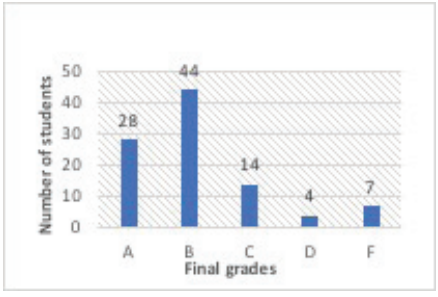


Figure 4

Final Grades for students of French elective courses traditional learning (semester 1)

Figure 5

Final Grades for students of French elective courses e-learning (semester 2)

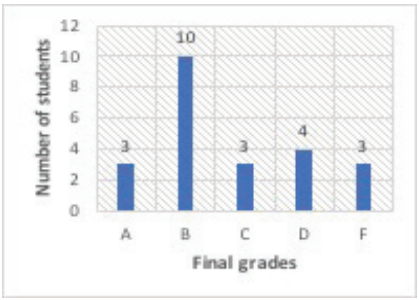


Figure 6

Final Grades for students of French Minor course 1 traditional learning (semester 1)

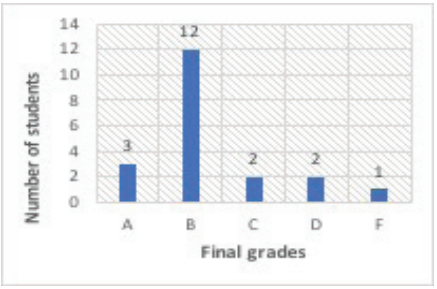


Figure 7

Final Grades for students of French Minorcourse 1 e-learning (semester 2)

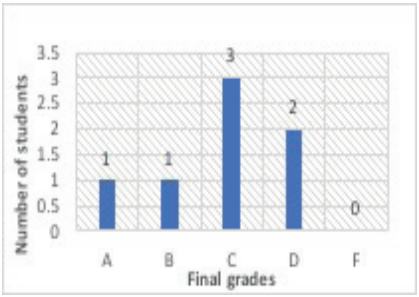


Figure 8

Final Grades for students of French Minor course 2 e-learning (semester 2)

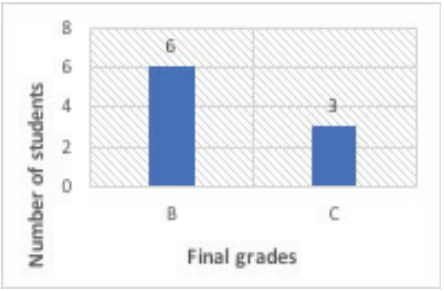


Figure 9

Final Grades for students of French Minor course 2 Traditional learning

A minor increase in the Fail grade was noticeable (see figures 4,5, 6, and 7), as for the French minor course 2, the final grades were more variable for the e-learning course than the traditional course, where grades were strictly between a B and a C (see figures 8 and 9). In summary, no significant difference was presented between both semesters' final grades. The limitation that occurs with this data is the absence of exploring the grades of each area of knowledge and language skill of the students in both learning situations to determine whether e-Learning enhanced students' learning. This data could have given more insight into students' learning

performance during COVID-19 and its effect, as stated by Gonzalez et al. (2020).

Therefore, according to the results of the self-reports, the survey, and the final grades, we conclude that e-Learning was as effective as traditional learning because students were able to achieve the learning outcomes of their French courses despite the sudden shift to e-learning. The results also proved, based on Gonzalez et al. (2020), that good performance was maintained in the e-learning environment.

5. Implication and Conclusion

The findings of this study have some important implications for research on e-learning during COVID-19. The study confirmed that an e-learning environment could provide students with a strong sense of community and a high level of satisfaction with their e-learning experience. This result is aligned with the study of Lim and Richardson (2021), which proves that social presence is essential as it reflects the level and quality of interaction and engagement by instructors and the e-learning environment. It is also aligned with the theory of Rovai (2001), for which interaction is essential in building a social presence and a strong sense of community in a virtual learning environment. Furthermore, self-efficacy and ICT literacy showed effects on the effectiveness of the e-learning experience, as proved by previous research (Chang & Fang, 2020; Rapanta et al., 2020; Hoq, 2020). Therefore, the study suggests that, at an institutional level, training should be further given to students to ensure e-learning effectiveness. However, contrary to the findings of Gonzalez et al. (2020), we did not confirm any significant predictive effects of e-learning during COVID-19 on students' language skills performance, which could be justified by the limitations of the data itself. The research question is accordingly answered as follows:

How effective was the e-learning for learning French as a foreign language during COVID-19?

The effectiveness of e-learning for learning French was measured through two aspects: students' perceived satisfaction and the learning outcomes. For the first aspect, students were satisfied with the e-learning

interactions to a certain extent, despite their preference for traditional learning; they expressed a strong sense of e-learning community as well as an improved level of self-efficacy with the Blackboard, for which they expressed a positive attitude toward its effectiveness and usefulness. On the other hand, the second aspect was measured and investigated through the results of the survey, the self-reports on learning, as well as the final grades. The findings proved that, despite the emergency remote teaching, students' performance was not negatively affected by the e-learning that appeared to be as effective as traditional learning during COVID-19 (Bawa, 2020). The results of the survey investigating students' perceived language skills progress showed that most of the students perceived progress in their reading comprehension, speaking, and listening skills. However, it revealed that some students did not perceive e-learning as enhancing their writing skills. Furthermore, the results of the self-reports on learning showed that students perceived acquiring the intended learning outcomes. Nevertheless, we believe that further data should have been gathered to obtain deep insight into the different aspects of learning and to measure the extent of language skill progress by measuring and comparing students' grades given to each skill performance before and after the pandemic.

6. Limitation and recommendation

Most studies of similar interest focused their investigation on the effect of emergency remote teaching and COVID-19 on higher education; the current study provided new evidence for research on the effectiveness of e-learning in French as a foreign language education during the pandemic. The significance of the current study appears in its methodology, which englobes several important aspects of e-learning to gain an overall insight into its effectiveness. Despite its significance, the study has many limitations, which were pointed out throughout the discussion of the results. Furthermore, we acknowledge other general limitations that should be considered when interpreting the findings of this study: firstly, the population of the study was exclusively undergraduate students learning French as a foreign language. Secondly, the number of participants was not significant and was slightly disproportionate in each survey. Consequently,

the results of this study might not be generalized to other contexts. Other foreign language contexts may show different results and variables from the ones included in the current study. Therefore, further research should consider other foreign language e-learning contexts to gain further insight on its effectiveness for foreign language learning and teaching during COVID-19.

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