Global Journal of Information Technology: Emerging Technologies

Volume 15, Issue 2, (2025) 123-145

www.gjit.eu

The alignment in e-learning implementation between Lebanese schools and universities

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Suggested Citation:
Yehya, F. M. (2025). The alignment in e-learning implementation between Lebanese schools and universities. *Global Journal of Information Technology: Emerging Technologies, 15*(2), 123-145. https://doi.org/10.18844/gjit.v15i2.9425

Received from; February 1, 2025, revised from; August 1, 2025 and accepted from September 1.
Selection and peer review under the responsibility of Assoc. Prof. Dr. Ezgi Pelin YILDIZ, Kafkas University, Turkey

iThenticate Similarity Rate: 9%

Abstract

E learning has emerged as a prominent instructional approach in contemporary education, particularly during periods of disruption that necessitated remote modes of teaching and learning. Despite widespread adoption across educational sectors, limited attention has been given to the alignment of e learning implementation strategies between secondary and higher education, revealing a significant research gap. The objective of this study is to examine the extent to which e learning practices are aligned across educational levels from the perspectives of educators and institutional leaders. A mixed methods research design was employed, combining quantitative data collected through surveys administered to 165 schoolteachers and university instructors with qualitative data obtained from interviews with school principals and university leaders. The findings indicate that alignment in e learning implementation was not effectively achieved, despite generally positive attitudes toward digital learning environments. Persistent challenges related to infrastructure and insufficient professional training constrained coherent implementation across institutions. The study highlights the need for coordinated strategic planning, targeted capacity building, curriculum development, and strengthened technological infrastructure. The findings contribute to the understanding of cross-level digital learning integration and offer practical implications for improving the coherence and sustainability of e learning initiatives within education systems.

***Keywords*:** Digital education; e-learning; educational alignment; instructional strategies; mixed methods.

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1. INTRODUCTION

E-Learning holds greater promise and is a trending topic to discuss more than any other instructional model in the 21st century in general (Nguyen et al., 2024). The interest in this topic remarkably increased during the quarantine that was imposed due to COVID-19, which has affected the educational systems worldwide. "E-Learning is the design of tomorrow's education. Oxford dictionary defines e-Learning as "learning conducted via electronic media, typically on the Internet. It is the expression generally used to describe "instructional content or learning experience delivered or enabled by electronic technologies" (Aparicio et al., 2016). According to Rock et al. (2016), e-Learning is the pedagogically driven use of all web-based technologies, ranging from hypertext pages to virtual realities, to attain knowledge and skills. E-Learning is also defined as interactive learning in which the learning content is offered online and affords spontaneous feedback to the students' learning activities, where online communication with real people may or may not be included (Naidu & Laxman, 2019). However, the most well-known definition that educators agree on is that e-Learning is a collection of synchronous and asynchronous instruction delivered to learners over technology (Colvin & Mayer, 2008; Lhafra & Abdoun, 2025).

E-Learning integrates learning with technological tools. Learning is the cognitive process for achieving knowledge and developing skills, whereas technology is for facilitating the learning process (Dey et al., 2025). E-Learning systems combine various technologies to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration. It aggregates writing technologies, communicating technologies, cooperating technologies, visualizing technologies, and storage technologies to deliver learning. The use of e-Learning technologies in teaching and learning is gaining an emergent interest among teachers, educators, and educational researchers. With the accessibility to the internet, in addition to the availability of mobile devices (smartphones, tablets, laptops), e-Learning became an emerging agent that is widely accepted among learners, educators, and the learning societies on the one hand, and capable of expanding the limits of traditional instructions beyond the walls of the classroom on the other hand.

The new e-learning technologies are having an intense impact on how educators communicate, attain information, and develop skills (Tokareva et al., 2019). Several studies have provided benefits and advantages derived from the adoption of e-learning technologies in educational systems. Srivastava (2019) claims that e-learning can be a very beneficial means to improve learners' performance. It is a very effective method to impart knowledge and information to staff /students who are in different geographical locations. Moreover, the study materials in e-Learning systems can be more up-to-date than in the classroom-based education systems and subsequently may provide a richer environment for collaboration among students.

According to Chiam (2016), e-Learning increases instructors' leverage as well as students' mastery and engagement. It offers students the opportunity to learn key disciplines, facilitates coaching concepts and tools, and serves as a means to benefit from bridging courses. Arkorful & Abaidoo (2015), from the review of literature on the role of e-learning in higher education, argue that e-Learning provides institutions the flexibility of time and place; improves the effectiveness of knowledge and qualifications via ease of access to a huge amount of information; and promotes communication and enhances learner- learner and learner-instructor interactions that sustain learning and enhance academic standards.

The use of asynchronous e-Learning allows self-pacing and takes into consideration the learners' individual differences. As the whole educational world is facing pandemic challenges, the first step taken by policymakers and educators in various countries is the implementation of e-Learning in educational institutions. The proposed solution might sound the most practical decision due to the benefits of e-Learning in facilitating learning and saving the intellectual development of students during the current school year, but what about the implementation strategies in this context? Are institutions ready to adopt this technique in their learning and evaluation processes? **Are school teachers and university educators on the same track for improving e-Learning in their institutions?** Accordingly, each school and university was brought into a difficult context with e-Learning challenges and levels of anxiety. Based on this alarming situation and to optimize the effectiveness of e-Learning,

the research will present the context of the e-Learning implementations in the Lebanese institutions in the following sections.

1.1. Contextual background

Notwithstanding the potential benefits of e-Learning in teaching and learning, its adoption in any educational system, including the Lebanese, is not smooth and is far from being without challenges and barriers. Hence, due to the COVID-19 crisis, educational systems and institutions released e-Learning initiatives and adopted specific procedures and action plans in line with the wishes of the ministries of education to overcome the decline in the educational status.

In Lebanon, until the COVID-19 pandemic, the Lebanese Ministry of Education and Higher Education (MEHE) denied e-Learning and refused to recognize online courses that were submitted for promotions. Also, many of the Lebanese institutions did not believe in online learning at all. Hence, due to the COVID-19 crisis, the Lebanese MEHE has been trying hard to implement e-Learning in education, but the Lebanese rigidly structured educational systems do not support innovative educational practices. Many of the Lebanese education institutions are challenged by insufficient structural capacities to accommodate online learning and to use educational technologies (Yehya et al., 2018). Operationally, most institutions, especially official schools, may not have the capacity to synchronize student learning, support systems, and use innovative educational technologies. To many educators, managing the processes of e-learning and developing digital course content is very daunting.

In the context of overcoming these barriers and accelerating the implementation of e-Learning, MEHE introduced many initiatives to implement e-Learning in Lebanese classes, supported by many teachers' initiatives. But unfortunately, their potentials were below expectations and did not meet the needs. The potentials of MEHE were focused on producing lessons with less concern for the teachers' skills, the quality of the supplied content, and the ways of assessment. MEHE encouraged teachers to volunteer to create TV lessons for Grade Nine and Third Secondary, thus ignoring other classes. Universities, with their Learning Management Systems (LMS), showed better e-Learning implementation than schools. Some Lebanese private schools directed their capabilities and potentials to implement e-Learning, whereas other private and official schools showed shy attempts to implement or completely refused e-Learning. Policymakers lacked the need for an appropriate pedagogy for e-Learning implementation and effective assessment. This status leads to an automatic upgrading across different grade levels and the loss of the validity and reliability of the e-Learning implementation potential. Additionally, MEHE and policymakers lacked the need for creating a real coordination and common track between schools and universities to improve e-Learning and unify potentials, despite some limited initiatives that were launched by some universities to help schools and teachers adopt e-Learning in their learning strategies and action plans. Thus, there was a lack of coordination among all the Lebanese institutions that were in need to cooperate and align their potentials for effective e-Learning usage despite the worldwide reasonable research studies that focus on the importance of the alignment between schools' and universities' perspectives on how to better adopt e-Learning models and strategies.

Consequently, in response to this lack, the current research paper contributes to the literature concerning e-Learning status in the Lebanese education system to get an extensive and clear image in a natural setting. This study aims to recognize and explore the appropriate plan of action to track the implementation of distance learning in the Lebanese educational system. The research will investigate the ways of effective implementation of e-learning from the teachers' and instructors' perspectives in overcoming the crisis. Also, the research will examine the level of alignment in tracking the implementation between schools and universities for improving e-learning in Lebanese institutions. It will also provide proposals and recommendations to implement e-Learning to reform the future of the Lebanese educational system. In light of this aim, the research question is advanced: "Is there any alignment between schools' and universities' potentials in adopting e-Learning models and strategies?"

Answering the research's main questions requires comparing schools' and universities' visions towards e-Learning and investigating teachers' and instructors' perspectives for appropriate e-Learning implementation. Also, answering the research's main questions needs to examine the alignment between schools' and universities' perspectives in adopting e-Learning. Thus, the research must answer the following sub-questions that are presented below:

-Do schools and universities have the same vision **towards e-Learning**?

-What are the teachers' suggestions for more effective e-Learning implementation in schools?

-What are the instructors' suggestions for more effective e-Learning implementation in universities?

-Do teachers and instructors have the same perspectives on how to implement e-Learning in their institutions?

The following conceptual framework will illustrate the expectations and join the key concepts necessary to answer the research questions.

1.2. Conceptual framework

The appropriate implementation of e-Learning needs a good infrastructure and internet availability (O'Doherty et al., 2018). Besides, appropriate e-Learning deployment needs users who believe in its usefulness (Alsabawy et al., 2016; Wang, 2017). Educators' perspectives have a tremendous effect on developing the best integration of e-Learning in the education system. School teachers and university instructors are the facilitators of the success of any initiatives for the effective employment of e-Learning in the educational system (Yehya et al., 2018, 2019). The attitudes of users and their willingness to adopt technology are directly related to the success of learning with e-Learning (Yehya, 2019). Thus, the acceptance and the effective usage of e-Learning in education involve a positive correlation with users' perspectives towards Information and Communication Technology (ICT) in teaching and learning. Additionally, educational systems should adopt appropriate procedures and action plans to implement e-Learning. These procedures and action plans should be coordinated and encouraged by all educators to complement the comprehensive schools' and universities' motivated objectives in their e-Learning implementation efforts. This means that adjusting cooperation between all educators at all levels is a must.

Stern (2004) claimed that the professional development of teachers is no longer restricted to their classroom practices. They are increasingly involved in school organization and professional communication. The preparation of teachers depends extensively on positive and effective cooperative relationships. According to the relational coordination model, educational institutions can obtain better outcomes in terms of satisfaction by providing shared goals, shared knowledge, and mutual respect mechanisms, supported by problem-solving communication (Margalina et al., 2017). Accordingly, cooperation between schools and universities can improve the quality and efficacy of teaching and learning by engaging teachers in common action plans in order to design the conceptual foundation of a support system for schools. This collaboration is one of the fundamental characteristics of the current e-Learning employment since universities are the point of convergence for schools' efforts. In countries where such learning corporations are more deeply rooted in educational systems for initial and ongoing professional development, institutions have had time to build on the systemic strengths to improve a professional learning culture (Flores, 2018). Schools, as the starting point for teaching the process, should understand learners' needs and guide them in how to construct valuable knowledge and practical experience for their success in their future learning. Cooperation between schools and universities creates changes in didactical approaches and professional practices of teachers. Their collaboration may offer rational support and important theoretical guidance for the improvement and development of e-Learning.

Thus, educational institutions (schools and universities) should re-align their practices and restructure their curricula both in terms of content and pedagogy to overcome e-Learning barriers. They should bridge the e-Learning needs in teaching and learning to appreciate the benefits that come with its adoption and employment

in schools and higher education for faculty members, administrators, and students. But is this relevant at the Lebanese educational level?

1.3. Purpose of study

The objective of this study is to examine the extent to which e learning practices are aligned across educational levels from the perspectives of educators and institutional leaders.

2. METHOD AND MATERIALS

The methodological framework below will reveal the research design and the methodologies to collect data for analysis and interpretation.

2.1. Research design

The research paper adopted the e-research design to examine the topic and collect data from a wide population. E-research is the term applied to the use of internet-based research. Internet-based research revealed web-based and communication-based methods to collect data. Through the web-based method, data can be collected from an online questionnaire that forms a webpage that the respondents can access to fill out the questionnaire. Besides, the internet-based research supports the synchronous and asynchronous methods of data collection. Through the synchronous data collection method, an interview occurs in real-time; the interviewer asks a question, and the online respondent replies immediately. However, asynchronously, there is no immediate response from the respondent; interview questions are posed by the interviewer in an email and are answered by the respondent at a later time. Moreover, the study adopted the descriptive research design to make a critical evaluation of e-Learning implementation and to determine the e-Learning implementation alignment between schools and universities from educators' perspectives. The pragmatic paradigm was considered for mixed methods research. Thus, the study depended on both qualitative and quantitative research methods to deal with the questions and analyze the similarities and differences between the educators' perspectives in tracking e-Learning implementation in the educational system.

In this paper, a meticulously designed survey consisting of both closed-ended and open-ended questions was created and utilized as a research tool to collect pertinent data aligned with the study's objectives and research inquiries. The survey underwent numerous rounds of review and modification by fellow researchers, followed by a pretest among a small group of targeted respondents. This process aimed to assess its effectiveness in gathering suitable and comparable data, as well as to evaluate its feasibility and usefulness as a research tool. Furthermore, an open-ended interview was employed to address the goals and objectives of the research, as well as to elucidate the barriers encountered in implementing e-Learning within the Lebanese educational system from the perspective of different educators (school principals and university decision makers). The data gathered from interviews played a crucial role in addressing the research questions and triangulating the data obtained from the survey. The validity of the interview questions was recognized through comprehensive rehearsals of the interviewing process and by conducting a pilot study with several respondents before commencing the formal study. Interview questions were modified to be understandable and capable of effectively addressing the research inquiries. Descriptive statistics, including measures of central tendency (mean M) and of dispersion (standard deviation SD), were employed to analyze the data to generate descriptive information and to lead to significant recommendations.

2.2. Participants

Prior to providing an overview of the population and the sample in this research paper, it is worth mentioning some contextual information about the Lebanese educational system. In Lebanon, secondary schools are divided into two primary sectors: public and private. Schools of both sectors are classified, based on the language of instruction in sciences and languages, into French or English schools, and some schools have both sections (English and French) in teaching the Lebanese curriculum (Yehya, 2019). Furthermore, Lebanese schools are either entirely

for girls, entirely for boys, or co-ed schools (Yehya, 2019). Similarly, Lebanese universities are divided into two main sectors: private universities and the Lebanese University.

The population under consideration for this study comprises: 1- all the Lebanese secondary schools that form a population of 863 secondary schools (274 public schools, 580 private schools, and 9 UNRUW schools) (CERD, 2019) and their teachers without gender discrimination; 2- all the Lebanese universities that have licenses from the Ministry of Education and Higher Education (MEHE) which form a population of 29 universities (One public university and 28 private universities) and their instructors without gender discrimination.

The sample was selected using a random sampling process from the population of the Lebanese secondary schools and universities using a table of random numbers. The sample was formed of 165 teachers and university instructors designated by random selection of 114 secondary schools and 6 university instructors without any gender discrimination. This sample comprised 79 males who represent 47.87% of the total sample and 86 females who represent 52.12% of the total sample (Figure 1). Moreover, this sample included 118 school teachers, 43 university instructors, and 4 attendees who are school teachers and university instructors at the same time. The Sample Size Calculator was utilized to determine the level of precision in the representative sample of the population under investigation. The results indicated that the chosen sample size accurately represents the target population with a 95% confidence level and a 9% confidence interval. Moreover, this chosen sample is representative of the considered population since the 114 chosen schools represented around 15% of the Lebanese secondary schools from different geographical locations and socioeconomic backgrounds. Tables 1, 2, and 3 present the distribution of the sample according to gender, job title (school teachers or university instructors), and experience, respectively.

Figure 1

Distribution of the Sample according to Gender

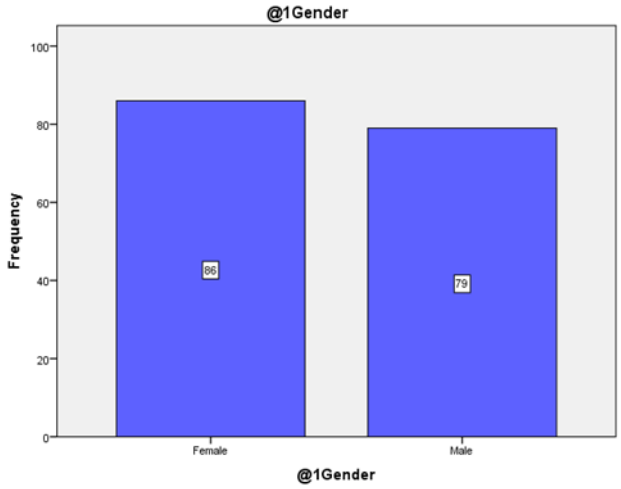


Table 1

Distribution of the sample according to gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	86	52.1	52.1	52.1
Male	79	47.9	47.9	100.0
Total	165	100.0	100.0	

Note. Frequency and percentages are based on participant responses.

Table 2

Distribution of the sample among schools and universities

You are instructing at:	Frequency	Percent	Valid Percent	Cumulative Percent
School	118	71.5	71.5	71.5
University	43	26.1	26.1	97.6
University and School	4	2.4	2.4	100.0
Total	165	100.0	100.0	

Note. Frequency and percentages are based on participant responses.

Table 3

Distribution of the sample based on experience

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 10 years	27	16.4	16.4	33.3
Between 10 and 15 years	28	17.0	17.0	17.0
More than 15 years	110	66.7	66.7	100.0
Total	165	100.0	100.0	

Note. Frequency and percentages are based on participant responses.

The results represented in Table 1 didn't show any gender discrimination. The findings presented in Table 2 showed that 26.1% of the sample are university instructors, 71.5% of the sample are school teachers, and 2.4% of the sample are teachers and university instructors at the same time. Furthermore, Table 3 demonstrates that a significant portion of the sample, specifically 83.7%, possesses over 10 years of professional experience.

2.3. Ethical considerations

This study adheres to established ethical norms. Informed consent was obtained from all participants, and data were anonymized to protect confidentiality.

2.4. Data collection tools

A survey and an open-ended interview were used as the two main tools to address the research aims and answer the research questions.

1- The "Lebanese Educators' Perspective Survey towards E-learning Status", developed by the researcher based on the literature review of previous research, dealt with the level of e-Learning and the barriers of its implementation in the Lebanese education system. The survey aimed to understand the current situation of e-Learning in Lebanese universities and schools. It realized teachers' and instructors' plans of action to adopt and implement e-Learning, and explored the level of collaboration and cooperation between institutions to grasp the distance learning shortcomings and provide the necessary foundation for better adoption of e-Learning in Lebanese institutions.

The survey focused on participants' demographic background and consisted of 6 questions that dealt with the current e-Learning situations, users' perspectives, and action plans in adopting e-Learning in their learning/ teaching process. The questions, linked to the conceptual framework, comprised one closed and five open questions. Also, the survey included 15 statements that assessed educators' perspectives towards e-Learning and the alignment in schools' and universities' potentials in adopting e-Learning models and strategies with a 5-point Likert scale (Table 4).

Table 4

Structure of Lebanese Educators' Perspective Survey towards e-Learning

Survey Sections	Objectives and Detected Variables	Type
Demographic Background	Gender, Experience, Job title, Name of Institution	Obligatory
e-Learning Implementation Questions	Institution's Vision	Closed question
	Adoption Strategies, Advantages, Barriers, and Future Recommendations	Open question
Users' Perspectives towards:	e-Learning Implementation and Alignment of Action Plans	5-point Likert scale

More details about the survey sections and their use will be shown in the coming sections. The validity of the survey sections and statements was checked and reviewed by Ph.D. educators and instructors, and modifications were made based on their instructions and feedback. Besides, the survey underwent pilot testing with 20 educators to check clarity, and their comments were taken into consideration. Moreover, the reliability of the questions that deal with educators' perspectives was measured by Cronbach's alpha. The measure of the internal consistency between the survey's questions is 0.786. The survey was sent to participants using Google Forms. Participants were informed that all data would be kept totally confidential. A copy of the Lebanese Educators' perspective survey towards e-Learning status can be found in Appendix A

2- The interviews sought to address the aims of the research and describe the limiting factors of adopting e-Learning in the Lebanese educational system from the teachers' and instructors' perspectives. The data obtained through interviews played a crucial role in addressing the research questions and triangulating the findings from the survey data. 8 school principals and 3 university decision makers in three different universities described their experience in relation to the topic. The interviewees were provided with a level of freedom and flexibility as they responded to the same set of open-ended questions. This approach aimed to gather consistent information from all participants. These interview questions are:

I- In your opinion, what are the advantages of implementing e-learning in your institutions and your teaching plans?

II- In your opinion, what are the difficulties of implementing e-learning in your institution and your teaching plans?

III- In your opinion, what are your perspectives on the best future e-Learning implementation in your institution and your teaching plans?

IV- In your opinion, what is the level of cooperation between schools and universities to guarantee the alignment in e-Learning usage and in developing the quality of content and teaching methods?

Thorough rehearsals of the interview process and piloting the interview schedule with multiple participants were conducted to acknowledge the validity of the interview questions before initiating the formal study. The interview questions were refined and adjusted to ensure clarity and their ability to effectively address the research questions. Interviews followed a semi-structured protocol, with themes validated through member checking.

2.5. Data collection procedure

The Google Forms survey was uploaded and emailed to school principals, who in turn distributed it to teachers and emailed it to university instructors who are concerned. Also, school teachers and university instructors were met to be informed about the aim of the research. Interviewees were asked to describe the status of e-Learning in their institutions and interpret and explain their opinions and their action plans for the effective use of

technology. The collected data from both surveys and interviews were analyzed, and the findings were shown in the "Results" section.

2.6. Data analysis technique

Quantitative data were analyzed utilizing the Statistical Package for the Social Sciences (SPSS v19). Descriptive statistics, such as percentages, frequencies, means, and standard deviations, were employed to summarize and analyze the data. Qualitative data were coded thematically using iterative categorization, with inter-rater reliability confirmed by two independent coders ($\kappa = 0.82$).

2.7. Limitations of the study

This study encountered several limitations. Firstly, the data collection process proved to be arduous and demanding. A main constraint of this study was the occurrence of delays in respondents' engagement with the survey questions, and at times, the survey was ignored altogether. This act wasted effort and time and reflected the unawareness and unappreciation of some teachers of the importance of education research.

Secondly, this research had limitations in comparing the alignment between schools' and universities' plans of action. One reason could be due to the lack of studies that explore this alignment and its main factors. Another reason could be that some pertinent studies may have been omitted unwittingly, as not all databases were searched.

3. RESULTS

In the subsequent section, the results of this paper will be presented both quantitatively and qualitatively, specifically addressing the five research questions. These findings will then be utilized to conduct a comprehensive discussion that investigates the alignment in e-Learning implementation between Lebanese schools and universities after revealing teachers' and instructors' visions and suggestions for effective e-Learning implementation in their institutions.

3.1. E-learning vision in the Lebanese institutions

In the context of the first research question: "Do schools and universities have the same vision towards e-Learning?", all the participating teachers and instructors (N =165) replied to the survey statements, **a**nd the results related to the Lebanese institutions' visions are displayed in Table 5 below:

Table 5

E-learning vision in the Lebanese institutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Is the e-Learning vision integrated into your institution?	No	49	29.7	29.7	29.7
	Yes	116	70.3	70.3	100.0
	Total	165	100.0	100.0	

Note. Frequency and percentages are based on participant responses.

The results presented in Table 5 show that 70.3% of the participating teachers and instructors reported that Lebanese institutions are aware of the importance of e-Learning and have an e-Learning vision. But the results displayed in Table 6, which compared universities and schools' visions, revealed that 38.1% of the responding teachers (45 out of 118) claimed that there is no e-Learning vision in their schools, whereas 93% of the responding instructors (40 out of 43) assured that e-Learning is supported and encouraged in the Lebanese universities.

Table 6

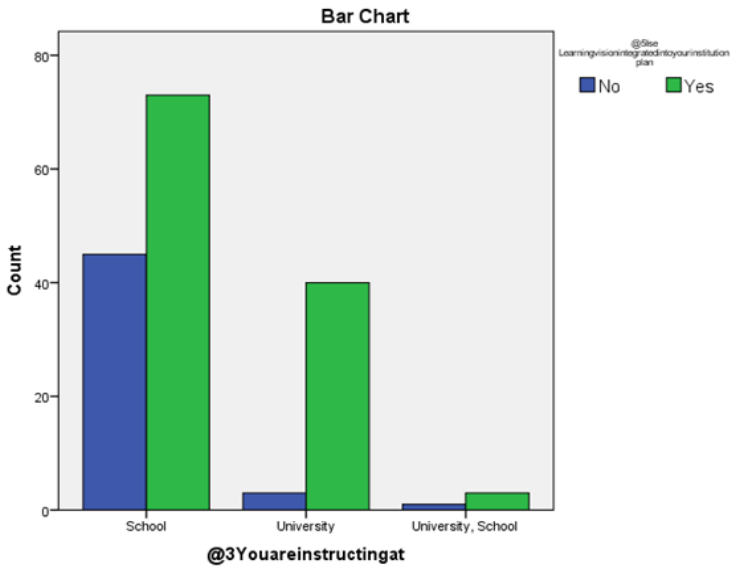
Distribution of e-learning vision between schools and universities

		Is e-Learning vision integrated into your institution?		Total
		No	Yes	
You are instructing at	School	45	73	118
	University	3	40	43
	University and School	1	3	4
Total		49	116	165

Regrettably, schools seem to be less motivated in implementing e-Learning in their teaching plans (Figure 2). It seems that a significant number of Lebanese schools lack a clear understanding of the necessary adaptations required for successful e-Learning implementation. They remain firmly rooted in traditional teaching and learning methodologies, content with their established practices of knowledge delivery. However, the graph reveals clearly that Lebanese universities are more aware of the need for e-Learning and they encourage its implementation.

Figure 2

E-learning vision among schools and universities



3.2. Educators' suggestions for effective e-learning implementation

Lebanese secondary teachers (N = 118) replied to the second question, "What are teachers' suggestions for more effective e-Learning implementation in schools?" by requesting the improvement of the physical e-Learning environment. They asked MEHE and education policymakers for a better infrastructure, faster internet connectivity, and more efficient educational software and tools to implement e-Learning. They also suggested improving and providing new curricula that can be compatible and suitable for e-Learning implementation. Besides, they proposed blended learning as a point of inflection towards e-Learning and learning by projects as a way to implement e-Learning. Additionally, they asked for workshops and training sessions to develop teachers' e-Learning implementation skills. Also, they suggested providing effective, interesting, and motivating teaching /learning strategies as well as training learners to increase their interaction and facilitate e-Learning implementation.

A sample of Teachers' answers is revealed in Table 7:

Table 7

Teachers' suggestions for e-learning implementation

- Train all teachers, as well as some students. Work more on the assessment.
- Adopt blended learning (a combination of face-to-face and distance learning).
- Get students' interest by using a lot of daily life applications, videoed or put in artificial simulations.
- Give students time to reflect and share their experiences, whether good or bad.
- Allow time for more personalized follow-up and support for students.
- Let students design projects.
- Provide the institution with the necessary means to implement e-Learning, train the teachers and provide them with resources, and give additional/more efficient/practical computer courses for students.
- Enhance the infrastructure; have better financial plans to adhere to price learners with the needed tools for e-learning; and provide the educators with vocational training.
- Develop the current curriculum properly to suit e-Learning.
- Apply e-learning consistently and not only in exceptional circumstances.
- Note that it is an added value for the teaching process and not a substitute.
- Provide free internet for students; design a website for the school; allow teachers, students, and parents to access the school website; upload lesson plans, activities, and sample exams to the school website; use an electronic platform; and design and employ computerized exams.

Similarly, to answer the third question, "What are instructors' suggestions for more effective e-Learning implementation in universities?", participating Lebanese university instructors, including the four who are instructors and teachers at the same time (N = 47), suggested allowing the online expertise to lead the e-Learning and support their potential to facilitate e-Learning implementation. One of the instructors claimed that:

> "*Our community is at the epicenter of the current emergency remote-teaching disruption. Charged with developing the plan to move to teach immediately online and/or directly making it happen, they are exhausted because their resources fall far short of need. They are also exhilarated because it is their expertise that makes this pivot possible. Administrators must acknowledge the expertise of their own online units and support them so that a personally overwhelming time would not also become a professional crisis. Leadership will make all the differenc*e."

Additionally, Instructors suggested more responsible action plans from policymakers to facilitate e-Learning implementation. One of the responding instructors said:

> "*I think we need more serious actions from the ministry. In the university, the work of both the instructors and the students was very serious and hard, while at school, it was not due to the minister's decision that considered e-learning as a procedure to keep students in the atmosphere. So they did not take it seriously*."

Moreover, the participating university instructors, just like the school teachers, suggested the improvement of the physical e-Learning environment. They asked to improve the internet connectivity, enhance the infrastructure, modify the curriculum to fit e-Learning needs, provide training workshops, and admit blended learning as a point of inflection towards e-Learning. They also recommended the use of the communication software and the adoption of the Learning Management Systems (LMS) and learning platforms.

Furthermore, the 8 school principals and 3 university decision makers replied to the interview questions, revealing their suggestions for better e-Learning implementation to answer the research questions and triangulate the data obtained from the survey.

The interviewed principals and decision makers, who had not participated in the survey, were selected randomly. All interview participants were provided with a certain level of freedom and flexibility as they responded to identical open-ended questions, aimed at gathering consistent information. Thematic content analysis was employed to analyze the collected data from the interview and to find common patterns across the data set.

All the interviewees felt the need for e-Learning despite the several barriers that resist its implementation in the physical learning environment and the users' potential levels. All the interviewees suggested better infrastructure and internet connectivity for a better implementation of e-Learning and designing teaching plans in their institutions in the future. Interviewees highlighted the absence of government orientation and the unclear directives of cooperation between schools and universities. They recommended the curriculum development as a means to foster the e-Learning implementation. They also proposed delivering teacher training workshops and professional webinars to enhance the quality of teaching in their classes. University decision makers stressed the need to train teachers and create an appropriate e-Learning environment. They highlighted the importance of the alignment in e-Learning strategies between universities and schools to facilitate e-Learning progression for future e-Learning continuity. School principals mentioned their need for coordination between educational institutions to overcome e-learning implementation barriers.

Thus, drawing upon the insights gleaned from the interviews and the survey responses, the researcher concluded that schoolteachers and university instructors generally had similar suggestions for better e-Learning. Both had the same suggestions on how to implement e-Learning in their institutions, but universities appeared more proactive and motivated to lead the implementation process.

3.3. Educators' e-learning visions and their teaching plans

"Do teachers and instructors have the same perspectives on how to implement e-Learning in their institutions?" Answering this question will take into consideration teachers' and instructors' visions towards e-Learning as a first step, and their adopted e-Learning teaching plans and strategies as a second step.

3.3.1. Educators' perspectives towards e-learning

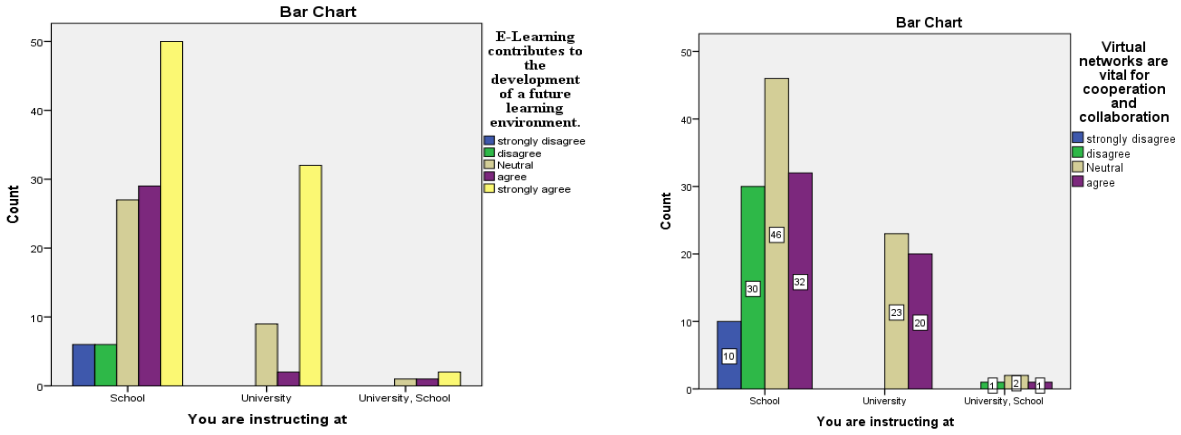
The survey was specifically crafted to gather evidence about teachers' and instructors' perspectives towards e-Learning in their learning culture. The survey included 6 statements that assessed educators' perceptions towards e-Learning with a 5-point Likert scale: 1= strongly disagree, 2= disagree, 3= neutral, 4 = agree, and 5 = strongly agree.

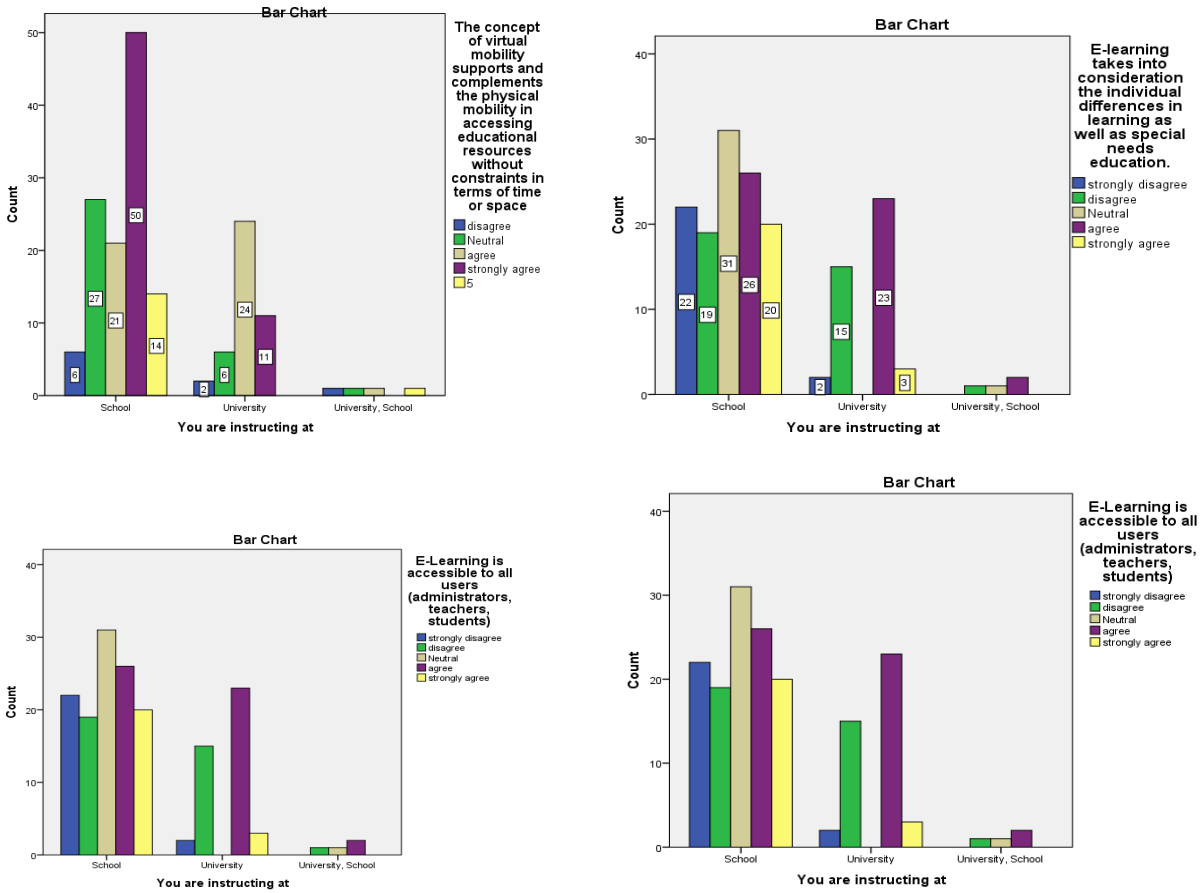
Teachers' and instructors' responses in implementing e-Learning in their learning culture were compared and illustrated by the statistical bar charts of Figure 3.

These bar charts reveal that both teachers and instructors have a positive attitude towards the vital role of e-Learning.

Figure 3

Comparing teachers' and instructors' perspectives towards e-learning





Moreover, Table 8 presents a concise overview of the mean "M" for each statement and the standard deviation "SD" for the perspective statement in the survey. The results are arranged in descending order for clarity and ease of interpretation.

Table 8

Means and SD for educators' perspectives

Perspective Statements	N	Min	Max	Mean	Std. Deviation
1- E-Learning contributes to the development of a future learning environment.	165	1.0	5.0	4.103	1.0967
3- The concept of virtual mobility supports and complements the physical mobility in assessing educational resources without constraints in terms of time and space.	165	2.0	5.0	4.012	.8695
2- Virtual networks are vital for cooperation and collaboration.	165	1.0	5.0	3.939	.8882
6- E-Learning is promoted to develop innovative applications for education and training.	165	1.0	5.0	3.624	1.0202
4- E-Learning takes into consideration the individual differences in learning as well as special needs education.	165	1.0	5.0	3.236	1.0528
5- E-Learning is accessible to all users (administrators, teachers, and learners).	165	1.0	5.0	3.085	1.2898
Valid N (list-wise)	165				

The analysis of the results was conducted using the following criteria:

1. A statement with a mean value less than 2 (M < 2) indicates a highly negative attitude towards e-Learning.
2. A statement with a mean value between 2 and 3 (2 < M < 3) indicates a negative attitude towards e-Learning
3. A statement with a mean value between 3 and 4(3 < M < 4) indicates a positive attitude towards e-Learning.
4. A statement with a mean value greater than 4 (M > 4) indicates a highly positive attitude towards e-Learning.

The results revealed that the mean of the educators' respondents for the statement 'e-Learning contributes to the development of a future learning environment' is M = 4.10 with SD = 1.09, greater than four (M > 4). Results also showed that the mean of the educators' respondents for the statement "The concept of virtual mobility supports and complements the physical mobility in accessing educational resources without constraints in terms of time and space" is M = 4.012 with SD= 0.86, greater than four (M > 4). Moreover, the means for all the other statements that concentrate on the role of e-Learning networks in cooperation, collaboration, and differentiated learning are greater than 3. The lowest mean from the teachers' perspective is for the accessibility of e-Learning to all users (M=3.08, SD=1.28).

Thus, Lebanese teachers and instructors have a highly positive attitude and awareness towards the usefulness of e-learning in teaching and learning.

3.3.2. E-learning teaching plans in Lebanese institutions

The gathered results illuminate several factors that can influence the level of e-Learning implementation in Lebanese institutions, as perceived by the educators. Results showed that the educators' adaptation to the e-Learning needs in the Lebanese institutions varied across the different institutions. Participating instructors and teachers explained different levels of adapting to the need for e-Learning in their teaching strategies. Most of the attendees in this sample revealed their dependence on their initiatives to implement e-Learning and to investigate the best practices for this implementation. A few attendees mentioned joining webinars and workshops provided by institutions. A very limited number of attendees highlighted their previous knowledge and skills about the LMS.

Teachers and instructors highlighted their dependence on recorded lessons, prepared PowerPoint presentations, videos, extra sheets, and online learning in their teaching plans and strategies. School teachers stated that they track the e-Learning implementation in their schools via WhatsApp groups, Google Classroom, Microsoft Teams, Zoom, Google Meet, and many other software that support asynchronous and synchronous learning, whereas most university instructors reassured tracking the implementation of e-Learning via a professional LMS provided and supported by their universities. All the participating educators had the same perspectives about the role of e-Learning in facilitating synchronous and asynchronous learning. They showed high awareness of the importance of communication and interaction between the elements of the teaching-learning process by choosing different types of software and tools.

Furthermore, 8 principals and 3 university decision makers responded to interview questions that reveal their perspectives about the advantages of and difficulties in implementing e-learning in their institutions and their teaching plans. Their responses help to answer the research question and to triangulate the data obtained from the survey.

Thematic content analysis revealed that all interviewees, with a degree of freedom and flexibility, confirmed the contribution of e-Learning in developing the learning environment and communication skills. All the interviewees highlighted the bad infrastructure and low internet connectivity as the main barriers to e-Learning

implementation in their institutions. 5 out of 8 school principals highlighted the lack of LMS as a key barrier in organizing and facilitating e-Learning in their schools, whereas university decision makers mentioned the importance of LMS in tracking e-Learning implementation and following learners' interactions and progression.

Therefore, based on the interviews and the previous results of the survey, all educators showed the same perspectives towards implementing e-Learning but at different professional levels. Lebanese universities showed more organized strategies and action plans to track the employment of e-Learning in the Lebanese learning environment than Lebanese schools.

3.4. E-learning alignment between Lebanese schools and universities

School teachers and university instructors revealed their visions and their action plans towards e-learning implementation, but the question raised in the same context is: "Is there any alignment between schools' and universities' potentials in adopting e-Learning models and strategies?" Answering this question is vital in investigating the level of collaboration and coordination between schools and universities.

The survey of Lebanese educators' perspectives towards e-Learning status included 9 statements that assessed the alignment in schools' and universities' potentials in adopting e-Learning models and strategies from educators' perspectives, with a 5-point Likert scale: 1= strongly disagree, 2= disagree, 3= neutral, 4 = agree, and 5 = strongly agree.

All the participating educators (N = 165) responded to the survey statements related to coordination between schools and universities. The mean "M" and standard deviation "SD" for each statement were computed, and subsequently, the results were arranged in descending order as illustrated in Table 9 below.

Table 9

Mean M and SD concerning the alignment between schools and universities

Descriptive Statistics					
Planned Actions and Alignment Statements	N	Min	Max	Mean	SD
9- Workshops run at the national level, and analysis for models and continuing teacher training are developed.	165	1.0	4.0	1.776	.9586
12- A platform for cooperation and an opportunity for contact and debate for all parties are offered.	165	1.0	4.0	1.764	.7232
10- Adopting and developing teaching methods for innovative education is supported.	165	1.0	4.0	1.648	.7054
14- The development of quality content and services is coordinated between schools and universities.	165	1.0	5.0	1.600	1.0977
11- Effective evaluation methods and e-Learning assessment tools are adopted.	165	1.0	4.0	1.509	.8086
8- Exchange of experience in the key areas of strategy on the use of distance learning for education and training has been strengthened.	165	1.0	4.0	1.442	.5336
7- Cooperation between schools and universities is run to guarantee the alignment in e-Learning usage.	165	1.0	2.0	1.376	.4858
13- Funds and financial plans to develop infrastructure, equipment, and network access are launched.	165	1.0	4.0	1.261	.5168
Valid N (list-wise)	165				

The analyses of the results were based on the following criteria:

1. The e-Learning implementation action of mean less than 2 (M < 2) is considered a very low alignment.
2. The e-Learning implementation action of mean 2 < M< 3 is considered low alignment.
3. The e-Learning implementation action of mean 3 <M< 4 is considered as moderate alignment

4. The e-Learning implementation action of mean greater than 4 (M>4) is considered a high alignment.

The results displayed that the mean of the educators' respondents for all the statements of this part of the survey is very low. The mean of the statement "Funds and fanatical plans to develop infrastructure, equipment, and network access are launched" is the lowest (M=1.26, SD=0.51). This highlights the lack of cooperation between all the educators' policymakers to provide an acceptable e-Learning environment. Also, the results showed that the mean of the educators' respondents for the statement "Cooperation between schools and universities is run to guarantee the alignment in e-Learning usage" is very low (M=1.37 with SD=0.48, less than 2). The highest mean (M = 1.77 with SD = 0.95) is for the statement 'Workshops run at the national level and analysis for models and continuing teacher training are developed'. Moreover, the mean for the statements related to the exchange of experience between schools and universities, coordination and collaboration in developing the quality of content, developing teaching methods and strategies, monitoring e-Learning implementation, and assessment showed a very low alignment.

Furthermore, the 8 school principals and 3 the university decision makers responded to the interview question: "In your opinion, what is the level of cooperation between schools and universities to guarantee the alignment in e-Learning usage and in developing the quality content and teaching methods?" to reveal their perspectives about the level of alignment between schools and universities in the implementation of e-learning in their institutions. Their responses help to answer the fifth research question and to triangulate the data obtained from the survey. Thematic content analysis revealed that all interviewees, with a degree of freedom and flexibility, confirmed that there is a lack of any effective alignment between institutions in developing e-Learning environments. 3 out of 8 university decision makers highlighted the importance of the alignment in e-Learning strategies between universities and schools to facilitate e-Learning progression for future e-Learning continuity. They mentioned their initiatives in training some teachers via different webinars to create an appropriate e-Learning environment. On the contrary, all the interviewed principals claimed that they did not receive any university monitoring for effective e-Learning implementation.

Therefore, based on the interviews and the previous results of the survey, all educators showed an absolute lack of alignment between the Lebanese institutions in implementing e-Learning.

4. DISCUSSION

E-Learning is not only the future of our learners' education (Yehya, 2018), but also a present investment. We need to convey learning to the public instead of conveying the public to learning. Within the scope of the primary research question, this study aimed to examine the extent of collaboration and coordination among Lebanese institutions in implementing e-Learning, and it highlighted, based on the literature review and educators' perspectives, institutions' action plans that identify the e-Learning status in Lebanese institutions.

E-Learning does not just "happen"! It requires careful planning and implementation. Effective implementation of e-Learning largely depends on the institutions' visions and teachers' efforts to insert e-Learning tools (Hassler et al., 2016; Yehya, 2019). A strategic vision is required to implement e-Learning effectively.

The study showed, from the educators' perspective, that e-Learning is integrated into Lebanese universities' visions. Universities are aware of the role of e-Learning in facilitating learning and increasing the necessary interaction between learners and instructors. They supported and encouraged the availability of LMS in their institutions, whereas there is no e-Learning vision in Lebanese schools.

Regrettably, there appears to be a lack of motivation among schools when it comes to incorporating e-Learning into their teaching plans. To effectively integrate technology into the learning and teaching process, it is essential to equip teachers with appropriate facilities, software, and training (Tiwari & Singh, 2018; Uke & Thool, 2012). Lebanese schools do not comprehend the needed changes to implement e-Learning in their teaching plans. They

are constrained by conventional teaching and assessment methods and strategies. They did not support e-Learning implementation by offering training, software, and financial assistance for teachers to comfortably progress towards an e-Learning environment. Also, adequate infrastructure was not prepared, and insufficient resources were provided to support the teachers' needs. Limited resources within the schools can extremely delay and limit the teachers' initiatives to implement e-Learning in classes (Kiili et al., 2018). Hence, the study showed that e-Learning implementation in universities is better attained than in schools. The findings revealed that the implementation of e-Learning in Lebanese schools was not effectively achieved and remained weak due to the absence of a clear e-Learning vision, lack of substantial support, and inadequate tools. This result is consistent with the observations made in the Lebanese literature regarding the ambiguous status of ICT in Lebanese schools (Alameh, 2013; Yehya et al., 2018).

Teachers play a pivotal role in driving and enhancing e-Learning (Yehya, 2019). The survey results demonstrated that Lebanese teachers and instructors showed a highly positive perspective and awareness towards the use of e-Learning in their learning culture, as shown by the mean score for their satisfaction with the role of e-Learning in institutions. This overall positive attitude towards e-Learning could be attributed to the administrative visions that evaluate teachers' potentials and abilities referring to e-Learning implementation, and to the social vision towards e-Learning as an opportunity for the learning environment to overcome the crisis.

Moreover, educators' initiatives are the key factors in the success of e-Learning (Naidu & Laxman, 2019). Results highlighted educators' initiatives in accelerating the deployment of e-Learning in their institutions and their practical adaptation to the need for e-Learning in institutions and teaching strategies. Educators (teachers and instructors) presented strategies to address the impending factors and promote e-Learning. Also, the analysis of results revealed that university instructors appeared more familiar with e-Learning management systems and assessment strategies than school teachers. They mentioned their organized use of the LMS both synchronously and asynchronously, where most participating teachers lacked the need for such an LMS. This may be due to the financial and training support provided by universities.

Despite educators' enthusiasm for e-Learning implementation in their learning culture, they felt less confident about its best implementation. Many challenges highly affected the e-Learning environment throughout its implementation. Challenges were due to the internet services, financial challenges, software, diverse learning contexts, content, curriculum, and professional development. All educators emphasized their requirement for support systems in information and communication technology (ICT) and general infrastructure, encompassing network security, high-speed internet, users' competencies, and integrated institutional policies. Educators suggested having e-Learning-related training programs that could develop their competencies. For them, e-Learning does not just pop up. It requires, in addition to initiatives of the government and policymakers, educators' professional action plans in assisting teachers to: a) reorganize the task of e-Learning and b) recognize the significance of new software and tools in student learning and their influence on teachers' attitudes towards e-Learning implementation. This result aligns with that of Shraim and Khlaif (2010), who mentioned that transformation to an e-Learning approach requires considering a holistic approach. This approach takes into consideration the importance of infrastructures, training, content, and human resources for successful e-Learning action plans.

Additionally, despite the need for effective assessment to guarantee the continuity in learning progress, schools and universities showed negative collaboration in developing effective evaluation and assessment models and methods. Educators highlighted the lack of appropriate assessment tools and the effectiveness of the evaluation methods. They revealed that the assessment did not reach its purpose in measuring learners' cognitive performance. This result is affiliated with the results of Rached et al. (2020), who conveyed that the highest percentage of e-Learning assessment in the Lebanese institutions was allocated to content and multiple-choice questions (MCQ), against a minimal share given to analysis and creativity. 70% of students and 24.7% of teachers in the sample revealed that the importance of e-Learning is attached to content, 34.3% of students and 30% of

teachers appreciated e-Learning MCQ modality, whereas 5.2% of students and 12.7% of teachers granted e-Learning to analysis and creativity (Rached et al., 2020).

Concerning the alignment between schools' and universities' potentials in adopting e-Learning models and strategies, Lebanese institutions showed a very low awareness towards the usefulness of coordination in creating an e-Learning culture. Results highlighted the very low alignment between Lebanese schools and universities in creating an acceptable e-learning environment. There is no notable exchange of experience between Lebanese schools and universities in developing the quality of e-Learning and strengthening effective e-Learning strategies. No workshops were run to exchange experiences and to analyze the adopted learning models. Schools did not benefit from university experiences in e-Learning implementation, and universities did not promote universal digital literacy or lead the development of teaching strategies for more innovative educational use of technology in teaching. Unfortunately, these results cannot be compared to the review of the literature due to the lack of this type of research in the Lebanese context. Moreover, comparing the similarities and the differences of these results with the results from other countries, despite its importance, is beyond the aim of this study and remains a suggestion for future work.

5. CONCLUSION

E-Learning holds greater aptitude and is a trending topic to discuss more than any other instructional model in the 21st century in general. The interest in this topic remarkably increased during the quarantine imposed due to COVID-19, which has affected the educational systems worldwide.

The Lebanese e-Learning experience was not a planned and designed action; it was rather a reaction to the critical circumstances. It was a mandatory transformation phase from an instructional face-to-face learning model to a delivery learning model. This alternating phase was marked by many errors and many torments. The results showed a divergence in the conceptions and functions of e-learning between Lebanese academic institutions. Despite all the resistance and all the contradictions, e-learning implementation is a need in Lebanese institutions. It was found from educators' perspectives that e-learning visions are more integrated in universities' plans of action than in those of schools. Cooperation between universities and schools, in addition to governmental initiatives, is very important in the process of attracting educators in these hard situations and crises towards e-Learning. Schools and universities are urged to become the main pillars in the e-Learning transformations and to offer every learner the opportunity to become digitally literate through the lifelong e-Learning system. The study found that Lebanese educators have a high awareness of e-Learning employment in the learning culture. However, it highlighted the lack of effective collaboration between universities and schools to track the alignment in e-learning progress. The findings of the study offer numerous suggestions for specific e-Learning implementation that are found to be effective in the Lebanese context.

It was concluded that e-learning should be designed to raise coherence between schools and universities, between institutions and policymakers, and between learners, instructors, and content to have a significant influence on student learning and to foster positive relations.

General infrastructural support systems include elements such as network security, high-speed internet, users' competencies, and integrated institutional policies, which are critical to overcome learning barriers and to make improvements in the current education system since 70% of educators identified connectivity barriers as a critical obstacle (Table 7). The availability of support services and educational resources for teachers, pupils, and parents, as well as online learning platforms, should be ensured.

Professional LMS, software, and professional training programs should be offered to establish a strong educator presence in online settings and build effective online learning communities that support the students' learning experience and their social interactions with the learning culture. University instructors and teachers should be encouraged to work together to produce an e-Learning environment. Universities should provide some non-credit courses and intensive workshops in education faculties to improve learners' acceptance of e-learning.

They need to support the evolution of school curricula to integrate new learning methods based on e-Learning action plans. Likewise, they have to plan and conduct professional coordination with schools to monitor and observe critically how teachers teach in virtual classes and how appropriately they use software supporting different skills and ways of teaching and learning. Besides, school staff awareness of and engagement with the research process should be increased. Schools are supposed to respond and participate in research and studies to develop the quality of e-learning content and teaching strategies. These actions can develop the scores of low coordination (M = 1.37) revealed in Table 9

In summary, the development of infrastructures, the effective coordination between institutions in adjusting training, content, and resources can be the driving force behind e-Learning innovations to grasp the current problems, shortcomings and to overcome the crisis in the Lebanese educational context.

Conducting further research projects is recommended to compare the results of this study with a larger sample and to merge the results with those of this paper. Also, future studies are recommended to examine the effect of university/school e-Learning coordination on education, as well as its impact on learners' engagement and achievement.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Approval: The study adheres to the ethical guidelines for conducting research.

Funding: This research received no external funding.

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Appendix 1

Lebanese Educators' Perspectives Survey towards E-learning Status

The instructor's perspective is an important factor for the successful implementation of e-learning in teaching, learning, and assessment. This survey aims to better understand the status of e-learning within Lebanese institutions from the perspectives of schoolteachers and university instructors in order to adopt e-learning within teaching, learning, and assessing actions. The survey aims to measure the alignment between school and university potentials in introducing e-learning. Moreover, it realizes the changes needed within schools and universities for a better adoption of e-Learning implementation.

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I- Demographic Variables:

Email address:	
Gender:	o Male o Female
Experience: How long have you been teaching/instructing?	o Less than 10 years o Between 10 and 15 years o More than 15 years

II- E- Learning Status in Your Institution:

You are instructing at:	o University o School Its Name (Optional): _____ _____	
Is e-Learning vision integrated into your institution plans of action?	o Yes	o No

Kindly answer the following questions:

1- How do you adapt practically to the need for e-learning in your institution and your learning strategies? Explain your practices.

_____
_____

2- In your opinion, what are the advantages of the implementation of e-learning in your institutions and your teaching plans?

_____
_____

3- In your opinion, what are the difficulties in implementing e-learning in your institution and your teaching plans?

_____
_____
_____.

4- What plans of action did you follow to track the implementation of e-learning in your institution and in your teaching plans?

_____
_____
_____.

5- What are your suggestions for the best future e-learning implementation in your institution and in your teaching plans?

_____
_____
_____.

III- Degree of Satisfaction with E-Learning Perspectives and Action Plans

Indicate your satisfaction with the following perspectives and levels of the planned actions in implementing e-Learning in your learning culture.

	Strongly Satisfied (5)	Satisfied(4)	Unsatisfied (2)	Strongly Unsatisfied (1)
Visions and Perspectives				
1- E-Learning contributes to the development of a future learning environment.				
2- Virtual networks are vital for cooperation and collaboration.				
3- The concept of virtual mobility supports and complements physical mobility in accessing educational resources without constraints in terms of time or space.				
4- E-learning takes into consideration the individual differences in learning as well as special needs education.				
5- E-Learning is accessible to all users (administrators, teachers, and learners).				
6- E-Learning is promoted to develop innovative applications for education and training.				
Action Plans and Alignments				
7- Cooperation between schools and universities is run to guarantee the alignment in e-Learning usage.				
8- Exchange of experience in the key areas of strategy on the use of distance learning for education and training has been strengthened.				
9- Workshops run at the national level, and analysis for models and continuing teacher training are developed.				
10- Adopting and developing teaching methods for innovative education is supported.				
11- Effective evaluation methods and e-Learning assessment tools are adopted.				
12- A platform for cooperation and an opportunity for contact and debate for all parties are offered.				
13- Funds and fanatical plans to develop infrastructure, equipment, and network access are launched.				
14- The development of quality content and services is coordinated between schools and universities.				
15- Monitoring developments and initiating studies are encouraged.				