



# Online education via media platforms and applications as an innovative teaching method

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## Abstract

Online teaching has globally become a part of the learning process and has been more well-established in developed countries. In developing countries, online teaching or e-Learning is not practiced or recognized officially by educational organizations and policymakers. On the other hand, it is well-known that computers and technology are the future; in such a case, the advancement of distance-learning or online learning is immensely remarkable. It has reduced teachers' and students' introversion concerning e-learning and technology and has provided a platform for learning new technologies and developing new skills. The recent COVID-19 lockdown impelled governments to start implementing E-learning in schools, which resulted in several challenges. This study attempts to analyze and interpret the challenges and potentials of implementing online learning by surveying through an online questionnaire using 'Google Forms' (N = 968) with responses from high school and primary school English teachers during the first week of March through the last week of April. The findings revealed that most teachers had negative perceptions of implementing e-learning for several reasons, including lack of essential facilities such as electricity, electronic devices, and the absence of required skills. The actual contributions of students and educators are also among the major obstacles. This research suggests introducing Information Communication Technology modules across media platforms and applications in the education departments, opening intensive courses for teachers, and developing educational facilities in the education departments and schools to overcome these limitations and challenges.

**Keywords** E-learning · Online teaching · Developing countries · Challenges · Teachers · Information Communication Technology modules · COVID-19 lockdown

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## 1 Introduction

Technological innovations have an impact on every area of our life, from the most basic interactions of our everyday routines to the most fundamental components of child education. For students and teachers, online education/distance learning is one of the fastest-growing trends due to the COVID-19 situation. Distance education is described as teaching and learning that takes place over a long distance between the teacher and the pupils. They communicate with one other through technology instruments such as letters, audio, video, computers, and the internet (Roffe, 2004). Today's version of distance learning is online education, which is "no longer a trend, but mainstream" (Kentnor, 2015, p. 22). Numerous nations are contributing in instructive change, educational reform, and an educational Information Communication Technology (ICT) hence the need for economic and social progress. Regarding the developing countries, Kelles-Viitanen (2003) contended that ICT substantially influence all elements of national life, politics, economy, and social and cultural development since it swiftly affects how people conduct business and access information and services (Bali, 2018), communicate with each other, and even entertain themselves.

Recently, online education has become more common among the western educational system, despite concerns about introducing online or e-learning for several reasons such as privacy, experience, regulations, and infrastructure, mainly the internet services and required devices. In developing countries, e-learning is very limited, and ministries of education have not supported or recommended this trend. The Coronavirus pandemic (COVID 19) has become the defining global health crisis and trigger that led to collapsing of schools in many countries. Consequentially, the education process was stagnant or, in most cases, forced to a complete halt. Therefore, some countries started to implement e-learning or online education as a solution to this problem or at least to mitigate serious consequences (Bao, 2020).

In developing countries, little information is known regarding the practice of e-learning, its procedures, and its success rates. Research studies on this trend and its applications in the developing countries' education systems are minimal, and the studies are at the university level. For example, Abdulrahman (2019) found that most private universities have no learning management system and still have not been able to go beyond using projectors and emails. In evaluating a new e-exam platform as a university case study, AL-Hakeem and Abdulrahman (2017) concluded that despite the advantages of e-exams, including reducing costs, efforts, time, and cheating, it also includes many challenges for students and academics. Fadhil & Al-Ameen (2016) studied to find the amount of real electronic use among four private universities. They found that the use of tablet computers and smartboards are limited. Research studies conducted on e-learning and online teaching at school levels are scarce in developing countries.

This study seeks to examine the teachers' perceptions about e-learning/online teaching because they are the main driver in the educational process and understand the various possibilities of implementing e-learning (Alhumaid et al.,

2020). This study looks into the attitudes of English teachers in elementary and secondary schools in Iraq, a developing country, on e-learning/online teaching. This study suggests that internet education may be successfully implemented in underdeveloped countries. The attitudes of English teachers are critical in this process since it is considered that they are more amenable to online education than other subject teachers. As a result, examining the viewpoints of English teachers on this case study aids in reflecting on the introduction of e-learning and online teaching in developing nations, such as Iraq, and adds to enhancing present educational processes.

To achieve this study's aim, the researcher collected and analyzed data from a survey through an online questionnaire using Google Forms. The survey collected data from 968 English teachers in primary and high schools in Iraq as one of the developing countries. The researcher expected that because of their English language, English teachers would be able to access more up-to-date information, use the internet and technologies more frequently, and effectively apply online teaching. This study is vital because it aims to assess the feasibility of implementing online teaching and learning in developing nations and to avoid failure due to a lack of familiarity with the current trend's requirements. The findings of this study point to flaws in the educational system that are now impeding growth and the adoption of innovative methodologies.

## 2 Literature review and conceptual framework

Informally, online education is defined as a learning approach in which students do not need to be present in a classroom. The terms e-learning, online education, online learning and teaching, and online courses are used interchangeably throughout the paper for the purposes of this study. The desire for distance learning could be linked to current technology and the internet, which makes it accessible to a large number of individuals. However, it is not a new teaching method, as it dates back to the 18th century. Distance learning had humble beginnings more than a century before the internet was invented. Although the origins of distant learning are debated, it is well established that it began in 1840 when an English educator, Sir Isaac Pitman, is credited with being the originator of distant learning, sent texts to his students on postcards. They would send him their assignments for review, feedback, and grading. (Verduin & Clark, 1991). Correspondence education was the name for this system, which is still required and slow by today's standards. In distance education, radio and television figured prominently. The first officially licensed radio station was devoted to educational programming by the University of Wisconsin in 1919 (Engel, 1936). The University of Iowa was the first university to use television as a distant learning tool between 1932 and 1937. (Koenig & Hill, 1967). In 1989, the University of Phoenix used CompuServe to launch the first online educational programs (The University of Phoenix, n. d.).

Kiekel (2007) estimated that most children would take at least one course online before graduating from high school. Because of a lack of interest in a subject, a school budget, or teacher expertise, online programs give students with educational

advantages that they may not have otherwise. From this perspective, the Michigan legislature enacted a law that requires all high school students to have at least one online educational experience to graduate. Consequently, online education is not necessarily a complete alternative for education in schools, but it is viewed as complementary to traditional schools' education and has the potential to be more impactful than on-campus education in some circumstances. In this regard, one of the meta-analyses of comprehensive review of more than a thousand empirical academic papers on e-learning published between 1996 and 2008 indicated that, on average, students who study online do slightly better than those who get face-to-face teaching. (Means et al., 2010).

Through applying a qualitative content analysis approach, in their study, Sun and Chen reviewed 47 published studies and research on online education since 2008. They suggested that three characteristics are critical for effective online education: (1) well-designed course material, compelling teacher-student interaction, well-prepared and wholeheartedly teachers; (2) fostering a feeling of community among online learners; and (3) fast technological innovation. (Sun & Chen, 2016, p. 157).

Education will be transformative when educators construct essential teaching and learning environments, and thus foster students' abilities of analysis, imagination, inventiveness, critical thinking, and metacognition. To initiate these great possibilities, online teaching has been applied in various ways worldwide and is currently expanding exponentially. According to Sun and Chen (2016), in 2010-11, 89% of colleges provide fully online, hybrid online, or other kinds of remote education courses. (Parker et al., 2011). In 2013, 32% of postgraduates enrolled in at least one online course. (Allen & Seaman, 2013).

Educators, learners, and authorities may indeed be able to gather valuable information, recommendations, and reviews about the quality of education and online experiences as a result of improved technology. The introduction of the World Wide Web (WWW) in 1991 created a universe in which a plethora of websites allow for the formation of online communities and organizations that can enjoy the benefits of widely used platforms like Facebook, Twitter, Google Drive, Google Classroom, Google Doc, Google Hangout, Dropbox, and numerous apps for chatting, conferencing, and emailing like Viber, Zoom, Skype, Yahoo, and others. In the review of papers published between 2003 and 2013 on the contribution of ICT networks, web technologies in e-learning, and mobile learning applications, Drigas and Tsolaki found that online learning can bring new prospects for underdeveloped countries if educational barriers are overcome. Internet and visual resources enable learners to interact socially and professionally whenever and wherever they need to achieve persistence and success with demanding learning. Traditional education's restrictions relating to time, space, and services can be overcome using e-learning, which allows instructors to impart material to a large enrollments. However, numerous fundamental problems face e-learning in impoverished nations, including a lack of electricity and equipment, key competencies, and students' and instructors' commitments to the program.

Garrison et al. (2000) developed the Community of Inquiry (CoI) framework, contending that effective learning online results from the interaction of three elements: cognitive presence, teaching presence, and social presence. The amount to

which learners can collaboratively investigate, develop, and reinforce meaning through conversation is referred to as cognitive presence. Teaching presence entails planning, deliberate deliberation, facilitation, and dialogue while connecting with students for meaningful learning. The degree to which learners see themselves socially and emotionally in online environments is referred to as social presence. To facilitate higher-order online education learning, the CoI framework emphasizes that all three assets must be present.

As the development of ICT's applications continues to include a wide range of teaching and learning opportunities for everyone, e-learning is becoming increasingly ubiquitous. It can be recognized as a novel strategy to delivering academic support and quality educational services via various types of information technology that promote learners' knowledge, skills, and other achievements. (Pham et al., 2019) found that in the context of Vietnam as a developing nation, despite the fledgling investment in online technology infrastructure, e-learning service quality is crucial and affects students' contentment and commitment.

New online education is noticeably more efficient than conventional education driven by technological innovations for enhancing the educational system. Therefore, many organizations, institutions, and universities worldwide are trying to design and present e-learning programs and courses by applying various Information Communication Technology (ICT). Similarly, in a study of primary school teachers, observations showed that teachers who embraced ICT encouraged student collaboration, curiosity, and strategic planning (Moseley et al., 1999).

In surveying a sample of Scottish primary teachers, MacCarney (2004) analyzed the effects of several ICT workforce development approaches on instructors, as well as the knowledge outcomes. The abilities obtained by teachers as a result of quality improvement showed that a larger emphasis on ICT pedagogy was required.

Online education strengthens teacher-student connection, allows students to concentrate on their studies, and minimizes the teacher-centered paradigm. This education trend involves students who otherwise may not participate actively in the traditional education process or classroom because of the feeling of self-consciousness or introversion. Instead, in this computerized environment, they may progressively overcome their inherent shyness. In a physical classroom setting, shy students did not obtain encouraging teacher attention. According to Dobbs and Arnold (2009), those that engage in disruptive or noteworthy activity are much more likely to receive attention. Teachers in conventional classrooms, according to Aloe et al. (2014), are constantly dealing with many requests therefore may not always have the time or energy to assist in every circumstance. Unlike physical classrooms in which shy students do not feel comfortable getting involved in learning, online classrooms provide enough opportunities to communicate their thoughts and feelings, experience new skills, and generate questions.

In e-learning, student satisfaction is crucial (Swan, 2001; Arbaugh, 2001; Richardson & Swan, 2003; Bolliger, 2004). In this regard, Mohammadi and Fadaian (2014) conducted a survey to assess the impact of six appropriate dimensions (learner, instructor, course, technology, design, and environmental dimensions) on e-learner satisfaction, arguing that emerging modern technology had provided equal educational opportunities. However, unless effective training methods

result in satisfied learners employing current apps, facilities, and appropriate structures, this subject will not be able to sustain deep and meaningful learning. These strong ICT positive effects compel East African countries to concentrate on ICT's impacts in developing the education quality in K-12 schools. However, Hennessy et al. (2010) stated in their evaluation of the use of ICT in primary and secondary schools in Sub-Saharan Africa (SSA), with a special focus on Commonwealth nations and East Africa, that ICT requires some extra requirements: integrating ICTs with other tools and resources to assist students' learning across the curriculum; emphasizing the provision of initial and continuing in-service education to incorporate ICT into topic teaching and learning in order to employ modern pedagogical techniques; the government's considerable investment and strategic leadership, as well as increased review and finding research that assesses supporting and construing variables as well as various aspects of ICT; and ensuring the long-term viability of these programs by tying them to educational reform and community goals. The results of a survey of 53 nations' teacher professional development programs found that the majority of them have invested in improving teachers' ability to use ICT as a teaching and learning tool (Farrell & Isaacs, 2007). This finding suggests that having assets but not the skill to successfully use them is a surefire way to waste money and lose your investment.

Power failures and intermittent energy are major hindrances to efficiently implementing ICT and e-learning. To overcome this problem, several countries, such as East African countries, have various efforts planned to use alternative energy sources, particularly in distant locations where electrical infrastructure remains undeveloped. The Mobile Solar Computer Classroom project in Uganda, Go-solar System in Kenya, and portable solar to power education DVD and LCD screens in Ethiopia are examples of these initiatives (Hennessy et al., 2010). Literature refers to this type of education as visual learning.

Students can develop skills for their future occupations by taking online courses. According to MacCloud (2004), online students learn exactly the same as those who attend traditional classes. As shown in a lot of research, better teaching and learning outcomes can be achieved using online classes (Young, 2006). It is anticipated that K-12 education in Iraq is trying to embrace this fast-growing distance education trend to obtain its potential benefits. The Ministry of Education in the Kurdistan Region of Iraq launched *Hawra Ferga* (Cloud School in English) in 2018 and *Qutabkhanai Alikroni* in 2020 (Electronic School in English), the first online learning programs for K-12 teachers and students. These programs are minimal, incomplete, basic, deficient, and do not achieve rigorous learning for students, and therefore very few teachers and students use these platforms.

Although online teaching and learning are desired, it is difficult to agree on what constitutes online education in practice due to its diverse characteristics. Moore and Kearsley (2011) identified 11 reasons why distance education is necessary, including:

- Provide chances for updating workforce skills as a matter of equity.
- Expand access to learning and training.

- Increase the educational system's capacity through improving the cost-effectiveness of educational resources.
- Enhancing the current educational frameworks' quality.
- Improving the cost-effectiveness of educational resources.
- Balance inequalities between age groups.
- Provide emergency training for critical target locations.
- Deliver educational programs to selected target demographics.
- Increase educational ability in new topic areas.
- Provide a balance of school, career, and family life.
- Give the educational experience an international flavor (Kearsley, 2012, p. 8).

Bailey and Card (2009) discussed compelling teaching techniques from the viewpoints of highly qualified, award-winning e-learning teachers in their phenomenological study. Fostering relationships, involvement, timeliness, communications, organization, technology, flexibility, and high expectations were among the recipients' eight excellent pedagogical approaches in online teaching. Teachers' love for teaching, empathy for students, and readiness to guide them ahead can all help to build great ties and communication between them and their students. Teachers must be flexible, devoted, and timely in responding to messages and emails, providing comments, and grading tasks because of the typical characteristics of online education. Good online teachers encourage students to share their opinions and experiences and support group projects by using effective technology and online discussion boards. Teachers that are well-organized can accomplish these objectives by providing students with all course materials and tools, as well as training them on how to use these resources effectively. Successful teachers are able to cope with and adapt to new technology, as well as be available online to respond to students' inquiries and concerns in a timely and polite manner.

## 2.1 Research questions

Four research questions will be addressed based on the research's main objectives:

Research question 1: What are teachers' perceptions and attitudes towards implementing online educations in primary and high schools?

Research question 2: What are the obstacles to applying the English language's online teaching from the teachers' perspectives?

Research question 3: What is the role of teachers' demographic background in their willingness to implement E-learning and online?

## 2.2 Hypotheses

In addition to the research questions stated, this study explores eight hypotheses based on survey data concerned with teachers of the English language. These hypotheses offer new insights on the fundamental arguments of the study.

Hypothesis 1: Differences in the gender of the teachers lead to different perceptions regarding the full implementation of online teaching of the English language.

Hypothesis 2: Differences in the gender of the teachers lead to different perceptions regarding the partial implementation of online teaching of the English language.

Hypothesis 3: Teachers of various ages have diverse perspectives on fully implementing the English language's online teaching.

Hypothesis 4: Teachers of different ages have different perceptions of partially implementing the English language's online teaching.

Hypothesis 5: Teachers with different job locations (cities, large towns, small towns, and villages) have different perceptions of fully implementing online teaching of the English language. In other words, it is expected that urban teachers will demonstrate more willingness to use online teaching compared to their counterparts in villages because online education is better linked with the advancements and contemporary culture of cities than it is with the villages.

Hypothesis 6: Teachers with different job locations (cities, large towns, small towns, and villages) have different perceptions of implementing partially online English language teaching.

Hypothesis 7: It is predicted that the settlement hierarchy will have a significant impact on teachers' perceptions of fully implementing online teaching. In other words, different residences of teachers (cities, large towns, small towns, and villages) influence teachers' perceptions of fully implementing online teaching of the English language.

Hypothesis 8: Different residences of teachers (cities, large towns, small towns, and villages) influence teachers' perceptions of partially implementing online teaching of the English language.

**Notes:** Hypotheses 5 and 6 concern the size of teachers' job location while hypotheses 7 and 8 concern the geographical residence of teachers.

### 3 Methodology

This study used an online questionnaire created with 'Google Forms' (N=968) as a survey method with English teachers' responses in primary and high schools. The sample was a probability sample, which implies that all individuals of the population had the same chance of being included. (Becker, Bryman, & Ferguson, 2012; Lampard & Pole, 2015); accordingly, the respondents' results represented the population as a whole (Bryman & Bell, 2015). The data was collected during the latter week of March to the middle of April 2020, during the Iraqi government-ordered quarantine period (first week of March to last week of April); this period coincided with the lockdowns in many countries around the world. Data collection duration was crucial because the Ministry of Education initiated a discussion to implement online teaching, and the issue sharpened the debate among teachers.



### 3.1 Procedure for measuring hypotheses

A t-test model has been employed to test hypotheses 1–2. In these two hypotheses, the English teachers were asked questions to fully and partially understand their perceptions of applying online teaching. In these two hypotheses, gender was taken into consideration to distinguish their perceptions. Hypotheses 3–4 were tested using a one-way ANOVA model; these three hypotheses were applied to assess the influence of age on respondents' views, allowing them to function as control variables. There are more than two categories in each of the three variables. The most frequent model for testing variables with three to four categories is a one-way ANOVA analysis. (Weinberg & Abramowitz 2008). A Pearson Correlation Model was applied to examine hypothesis 5–8, including teachers' job locations (cities, large towns, small towns, and villages) and teachers' geographical residence (cities, large towns, small towns, and villages). Like hypotheses 1–3, the respondents in hypotheses 3–8 were asked their perceptions of implementing online teaching fully and partially (Table 1).

## 4 Results & discussion

The following analysis has been broken down into sections that correlate to the hypotheses and questions of the research.

### 4.1 Introducing online education from the teachers' standpoint

This part delves into the first research question, which analyzes teachers' attitudes toward executing online teaching of the English language across primary schools and high schools. The teachers were asked their perceptions about applying online teaching partially and fully. Table 2 indicates that most respondents, or 85.1%, disapproved of completely applying online English language teaching. completely applying online English language teaching; only 11.3% were in favor

**Table 1** Participants' demographic information

<b>Gender</b>	Male	Female				
	53.3	47.3				
<b>Age</b>	20–35	36–50	51 or above			
	43.7	53.9	2.4			
<b>Job Location</b>	City	Large Town	Small Town	Village		
	56	16.7	12.5	14.9		
<b>School Type</b>	Government Basic School	Government High School	Private Basic School	Private High School	International School	Private Centers
	59.5	32.1	2	1.2	1.4	3.6

**Table 2** Teachers' attitudes towards implementing fully and partially online teaching of English language

Statements	Yes %	No %	I Do Not Know %
Implementing online teaching of English language fully	11.3	85.1	3.6
Implementing online teaching of English language partially	48.2	45.2	6.5

of saying yes while 3.6% selected did not know. This indicates that English teachers do not prefer online teaching as a substitute for teaching in classrooms.

In the next section, the respondents expressed their concerns about online teaching by determining several factors. Regarding the partial implementation of online teaching, Table 2 reveals that nearly half of respondents (48.2%) approve of partially incorporating online teaching, while 45.5% oppose it, and 6.5% are undecided (they said they didn't know), indicating that they are unsure about whether or not to support online teaching. It comes as no surprise that they neither agree nor disagree with online teaching because the Ministry of Education has not invested enough time and energy in making an online teaching project successful and has not paid any attention to teacher training about online teaching. In contrast, online teaching has become more common in western countries. In this context, Table 3 shows that more than half of respondents, or 54.7%, believe that teaching English, especially the listening component, is compatible with online teaching and learning. This shows that the education department can recommend English listening courses online because more than half of the teachers had complimentary views about teaching this skill.

In contrast, less than half of the respondents showed their willingness to teach reading skills (45.3%), grammar skill (43.5%), and speaking skills (42.2%). This proves that the respondents still do not believe that online teaching is practical in teaching English skills. Also, 20.2% think that none of the skills can be taught online in this relevant context.

**Table 3** Using online teaching for English language skills

Skills	
Listening	54.7
Speaking	42.2
Reading	45.3
Writing	24.2
Grammar	43.5
Vocabulary	1.6
None of them	20.2

## 4.2 Impediments to implementing online teaching of English language

The second research question, discussing the obstacles to integrating online teaching from the teachers' perspective, is examined in this section. Table 4 indicates that the internet services' low quality represents the most significant obstacle, according to 84.9% of respondents. In many developing countries, internet quality is inadequate and does not encourage online teaching in many places. Good quality internet service is expensive compared to people's income, so people have to spend a significant portion of their income. Additionally, there are no social benefits to support low-income families or student loans to provide internet service. The second major obstacle comes from economic reasons and family income because 72.9% of respondents stated that students do not have laptops or smartphones to use for online education. This rate is very high and not easy to resolve without substantial subsidies provided by the government. Other obstacles include teachers' ICT experience and the ability to teach online. For example, 69.9% of respondents acknowledged that they lacked ICT experience and stated that they did not have laptops to manage online classes. Essentially, the data reveals that launching online education is currently unachievable since the preponderance of teachers and students lack ICT skills and the required communication tools, especially computers and cellphones with reliable internet service. However, these issues can be resolved if the government will take these obstacles into serious consideration, which needs subsidies and training before introducing online teaching. Unless online teaching is practiced within schools, mistrust represents one of the biggest obstacles, as 43.4% of respondents believe that students do not trust online teaching, and 23.5% of them stated the Ministry of Education doubted teachers' competencies in implementing online teaching.

**Table 4** Obstacles of implementing online teaching from teachers' perspectives

Statements representing the obstacles	%
lack of teachers' expertise in using ICT in teaching	53.6
Lack of students' expertise in using ICT for learning	69.9
Poor internet service quality	84.9
Teachers do not have laptops	49.4
Students do not have laptops or smartphones	72.9
Lack of trust in online learning by students	43.4
Lack of trust in online learning by the majority of teachers	38
Ministry of Education's lack of trust in teachers competencies in the implementation of online teaching	23.5
Lack of Electricity	1.2
Cost of the internet for students	1.2

The respondents were allowed to choose more than one choice

### 4.3 Results of hypotheses

#### 4.3.1 Gender differences

The first hypothesis proposes that teachers have varying attitudes for fully implementing online teaching at schools. This hypothesis is not significant, as shown in Table 5. It is not statistically different at  $p=0.98$  because most teachers (85.1%) were not in favor of the full implementation of online teaching (Table 2). Similarly, the T-test Model suggested in the second hypothesis that was no statistically difference among teachers regarding the partial implementation of online teaching at  $P=0.2$  (Table 5) because teachers agreed to implement online teaching by 48.2% and apart from their gender backgrounds, 45.2% said no (Table 2). This shows that teachers have common perceptions of implementing fulling and partially teaching online.

**Table 5** The t-Test Model and the One-Way ANOVA Model reports teachers' perceptions of fully and partially implementing online teaching based on their gender and age backgrounds

Variables	Gender differences are tested using the t-test			
	M	SD	t-test	Sig
Implementing online teaching of the English language fully				.98
Male	1.19	.499	.124	
Female	1.18	.506	.123	
Implementing online teaching of the English language partially				.02
Male	1.67	.560	1.36	
Female	1.55	.660	1.34	
	Using ANOVA for teasing Age differences			
Implementing online teaching of English language fully	M	df	f	Sig
Young teachers (20-35)	1.30	2	2.94	0.056
Middle age teachers (36-50)				
Teachers aged 51 or above				
	M	df	f	Sig
Implementing online teaching of the English language partially				
Young teachers (20-35)	.79	2	1.075	.34
Middle age teachers (36-50)				
Teachers aged 51 or above				

Values' sig are referred to t-test of Sex and ANOVA for Age for the remaining categories, and sig value is significant at  $p \leq 0.05$

#### 4.4 Age difference

The third hypothesis predicted that teachers' perceptions regarding fully implementing online teaching would vary depending on age. Table 5 shows that this hypothesis is correct, and there is a considerable gap between the different age groups. The one-way ANOVA model suggested that this is significant at  $p=0.056$  (see Table 5), and the central gap is between ages 18–30 and ages 31–50 and 51 or above, as the mean square of age 18–30 is 1.30 the other categories stand at 35.8. The fourth hypothesis was devoted to testing teachers' perceptions regarding partially implementing online teaching. The ANOVA model suggested that this hypothesis is not significant because the  $p$ -value is 0.34 (see Table 5). This means that, apart from age differences, teachers have a standard view of partially implementing online teaching.

#### 4.5 Correlation between teachers' job locations (cities, large towns, small towns, and villages) and partially implementing online teaching

The fifth hypothesis was devised to test the correlation between teachers' different job locations (cities, large towns, small towns, and villages) and their perceptions about fully implementing online teaching of the English language. This hypothesis predicted that the teachers who work in more extensive work environments are more open to fully implementing online teaching. But this hypothesis was not significant at  $p=0.44$  because the teachers fundamentally were not fully implementing online teaching (Table 2). The sixth hypothesis examined the correlation between teachers' job locations and their perceptions about partially implementing online teaching of the English language. Table 5 indicates that this hypothesis is significant at  $p=0.59$ . This illustrates that teachers from villages and small towns do not believe that students can engage in online classes for several reasons such as low quality of the internet services (84.9%), students' lack of laptops or smartphones (72.9%), and students' lack of experience in using ICT for learning (69.9%) (Table 4).

#### 4.6 Correlation between teachers' geographical residences (cities, large towns, small towns, and villages) and partially implementing online teaching

The seventh and eighth hypotheses were designed to test the correlation between teachers' different geographical residence (cities, large towns, small towns, and villages) and their perceptions about fully and partially implementing online teaching of the English language. This hypothesis suggested that teachers who live in larger environments are more open to fully and partially implementing online teaching. Table 6 points out that both hypotheses are not true because there is no correlation between teachers' geographical residence and fully implementing online teaching at  $p=0.22$  and partially implementing online teaching at  $p=21$ . This indicates that teachers' geographical residence does not matter

**Table 6** Correlation between job locations and geographical residence of teachers and Implementing online teaching of English language fully

Variable	Mean	SD	Sig. (2-tailed)
Teachers' job locations (cities, large towns, small towns, and villages)	1.06	0.23	0.044
Implementing online teaching of English language fully	1.13	0.43	
Teachers' job locations (cities, large towns, small towns, and villages)	1.06	0.23	0.59
Implementing online teaching of the English language partially	1.54	0.61	
Teachers' geographical residence (cities, large towns, small towns, and villages)	3.15	1.21	0.22
Implementing online teaching of English language fully	1.13	0.43	
Teachers' geographical residence (cities, large towns, small towns, and villages)	3.15	1.12	.021
Implementing online teaching of English language partially	1.54	0.61	

Correlation is significant at the 0.5 level(2-tailed)

because the majority of teachers (53.6%) lack the experience of using ICT in teaching (Table 4). Teachers, regardless of their residential backgrounds, are not educated about ICT during their studies at teachers' colleges.

## 5 Conclusions

Several studies suggest that e-learning can empower and enable developing nations overcome educational obstacles and create new experiences by applying the web and visual technologies to promote social and professional interaction among learners whenever and wherever they need it.(Drigas & Tsolaki, 2015). E-learning can mitigate the shortcomings of traditional education techniques by allowing instructors to impart material to a large number of students despite time, space, and facility constraints. However, many major obstacles exist in underdeveloped nations for e-learning, including a lack of necessary factors such as energy, electronic equipment, requisite skills, and genuine contributions from students and instructors. This research has revealed that 85.1% of respondents did not support fully implementing online teaching of the English language, but 48.2% of the respondents favored partially implementing online teaching for several reasons. Low-quality internet services represent the most significant obstacle, 84.9% (Table 2), to implementing online teaching. Students on low incomes cannot afford reliable internet service and the required equipment such as laptops and other devices.

Furthermore, 53.6% of teachers acknowledged that they lack experience using ICT in teaching (Table 3). This shows that the Ministry of Education will encounter significant challenges in implementing online teaching. This issue can be resolved by running modern intensive ICT courses for teachers and reforming the teachers' curriculums by introducing ICT modules to their programs. However, it is a long-term task to reform Iraq's administrative infrastructure, which seems unachievable (Bali & Abdullah, 2017; Bali, 2016). Governments should nevertheless pay more

attention to the education sector because it contributes to all other sectors, and therefore the education sector should be the top governments' priority. According to this research data, the younger generation of teachers—which represents the majority of teachers—is more open to online education and the reformation of the education sector. Teachers' homogeneity can be noticed among the teachers, which makes it easier to reform the education system. For example, there was no correlation between teachers' geographical residence and their perceptions about implementing online teaching fully and partially (Table 6). Instead, there was only a small correlation between teachers' job locations and partial implementation of online teaching. This was attributable to a lack of educational resources in small towns and villages, along with lower-income students. Although this is not a direct concern for teachers, it is a significant impediment since it is difficult to overcome rapidly. In developing countries, the problem of economic and infrastructural disparities between major cities and rural towns and villages presents itself.

## Declarations

**Conflict of interest** The authors have no conflict of interest.

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