Digital Communication Technologies in the Modern English Classroom: Opportunities and Challenges

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ABSTRACT
The rapid growth of digital communication technologies—including messaging apps, email, video conferencing, learning management systems, and social media—has transformed the teaching and learning of English worldwide. While the use of these technologies in English as a foreign language (EFL) classrooms remains a subject of debate, digital communication can make a valuable contribution to language education when applied purposefully and according to sound principles. This article explores the role of digital communication in English teaching and learning, arguments for and against its use, the contexts in which teachers employ it, and its effects on learners' attitudes and achievement. The study used a mixed-methods design, combining a questionnaire completed by 25 EFL teachers with a ten-week quasi-experiment involving 60 first-year university students, equally divided between experimental and control groups. The findings indicate that every teacher uses digital communication to some extent and that 84% regard it as useful. It is used most commonly for announcements, distributing materials, listening practice, and vocabulary learning, and least commonly for assessment. Students taught using digital communication tools achieved higher post-test scores than those in the control group ($t(58) = 4.93$, $p < .001$, $d = 1.27$) and reported strong motivation and engagement. The article concludes by proposing guidelines for the effective integration of digital communication into EFL classrooms.

Keywords: Digital communication, teaching English, computer-mediated communication, EFL, language learning technology.

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I. INTRODUCTION

The twenty-first century has witnessed a technological revolution that has changed the ways in which people work, interact and learn. Communication barriers that once separated communities have largely disappeared, and a person can now exchange text, voice and video messages with speakers of English anywhere in the world within seconds. Consequently, learning English has become a necessity for education, employment and participation in a global society. Learners today have often been described as "digital natives" who have grown up with networked technologies (Prensky, 2001), and many of them already use English online, inside and outside the classroom.

Warschauer and Healey (1998) described the development of technology in language teaching as a sequence of three phases: behaviouristic, communicative and integrative. The third phase, which began with multimedia and the Internet, emphasizes authentic communication among real people. Digital communication, defined here as the exchange of information through networked tools such as messaging applications, email, discussion forums, video conferencing and social media, belongs to this integrative phase. It gives learners opportunities to receive input, to produce output and to negotiate meaning with teachers and peers in ways that a conventional timetable rarely allows (Chapelle, 2001; Thorne and Black, 2007).

Some researchers and teachers encourage the use of digital communication in teaching English as a foreign language, while others do not. The former group believes that digital tools extend contact with the language and make learning more learner-centred; the latter fears that such tools distract students, widen the gap between those who have and those who do not have access, and weaken face-to-face interaction. Researchers who emphasize the role of technology in second language learning argue that computer-mediated communication is a legitimate and valuable type of activity for EFL learners (Beatty, 2010; Stockwell, 2012).

Statement of the Problem

Teachers and researchers are divided over the use of digital communication in language learning and teaching. Many institutions have adopted learning management systems and messaging platforms, yet the use of these tools is often unplanned and is rarely based on pedagogical principles. It is also unclear how often teachers actually use digital communication, for which purposes, and whether its use improves learners' language skills. This study attempts to explore the views of a sample of EFL instructors on how often they use digital communication and the situations where it may be used, and to examine its effect on a sample of learners.

Study Questions

The study attempts to answer the following questions:

- How often do teachers use digital communication in language learning and teaching?
- Do teachers think it is useful to use digital communication in language learning and teaching?
- What are the situations where teachers use digital communication?
- What are students' attitudes towards learning English through digital communication?
- Is there a statistically significant difference in English achievement between students who learn with digital communication tools and those who do not?

Significance of the Study

Although teachers are divided over the use of digital communication in the EFL classroom, it remains a helpful resource if used appropriately and purposefully. The significance of this study stems from the following: it shows the situations in which teachers use digital communication; it provides empirical evidence of its effect on learners' achievement and attitudes; and it offers guidelines to promote its effective use in language teaching and learning.

Scope and Limitations of the Study

The study is limited to the use of digital communication tools as a support for English language instruction at university level. It does not deal with fully online degree programmes or with courses on educational technology. The sample was drawn from a single institution and the intervention lasted ten weeks; the results should therefore be generalized with caution.

II. THEORETICAL BACKGROUND

Theories that support digital communication in language learning

Several theories explain why digital communication may facilitate language learning. The interaction hypothesis holds that negotiation of meaning during conversation makes input comprehensible and draws attention to form (Long, 1996). Swain (1985) argued that learners also need opportunities for pushed output, and chat, forums and voice messages create such opportunities with less anxiety than face-to-face speaking. From a sociocultural perspective, learning occurs through mediated interaction in the zone of proximal development (Vygotsky, 1978), and digital tools mediate this interaction beyond the classroom walls. Garrison, Anderson and Archer (2000) further proposed that online learning depends on the presence of three elements: cognitive, social and teaching presence. Finally, the Technology Acceptance Model suggests that teachers and learners adopt a tool when they perceive it to be both useful and easy to use (Davis, 1989).

These perspectives are summarized in Figure 1, which shows how different types of digital communication tool support learning processes that in turn lead to improved outcomes.

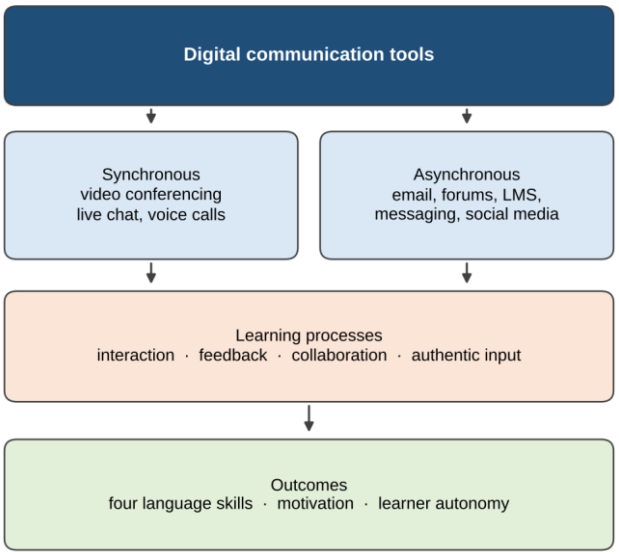


Figure 1. Conceptual framework of the role of digital communication in English language learning.

Digital communication tools and their pedagogical functions

Digital communication tools differ in their pedagogical potential. Synchronous tools, such as video conferencing, allow real-time speaking and listening, whereas asynchronous tools, such as email and forums, give learners time to plan, edit and reflect before they respond. Table 1 summarizes the main categories used in this study.

Table 1. Categories of digital communication tools and their main functions in EFL teaching.

Tool category	Examples	Main pedagogical function
Messaging apps	WhatsApp, Telegram	Quick peer and teacher exchange; voice notes
Email	Gmail, Outlook	Formal writing; individual feedback
Video conferencing	Zoom, Google Meet	Live speaking and listening practice
Forums and LMS	Moodle, Google Classroom	Extended written interaction; sharing materials
Social media	YouTube, Instagram	Authentic input and cultural exposure
Mobile apps	Quizlet, Duolingo	Vocabulary practice; self-paced review

III. REASONS FOR AND AGAINST USING DIGITAL COMMUNICATION

Reasons for using digital communication

The primary reason for using digital communication in language teaching is that it increases exposure to authentic English and to real audiences. Learners who write to a real reader or speak to a real interlocutor have a concrete communicative purpose, which strengthens motivation (Dörnyei, 2001). Digital tools also extend learning time, because practice is not confined to the timetable, and they support self-regulated learning outside the classroom (Lai and Gu, 2011). Mobile applications allow short, frequent vocabulary practice (Godwin-Jones, 2011). In addition, multimedia input that combines words with images and sound can improve comprehension and retention (Mayer, 2009). Finally, shy or less proficient learners often feel more comfortable participating in written online discussion than in front of the whole class, and the use of digital channels can strengthen the teacher–student relationship.

Reasons for not using digital communication

Many teachers believe that the classroom should remain a place of direct human interaction and that technology may distract learners from the target task. Other objections include unequal access to devices and reliable connections, the additional workload for teachers who must answer messages outside working hours, the risk of learners relying on informal or abbreviated language, privacy and security concerns, and the lack of training in online teaching (Hampel and Stickler, 2005). Sykes, Oskoz and Thorne (2008) also note that the mere availability of a tool does not guarantee learning; the task design and the teacher's guidance are decisive.

IV. METHOD

Design

The study used a mixed-methods design. The first part was a descriptive survey of EFL teachers (research questions 1 to 3). The second part was a ten-week quasi-experimental pre-test/post-test study with an experimental group and a control group (research questions 4 and 5).

Sample

The sample consisted of 25 teachers of English and 60 first-year undergraduate students enrolled in a general English course. The students were randomly assigned to an experimental group (n = 30) and a control group (n = 30). Table 2 shows the characteristics of the participants.

Table 2. Participants' characteristics.

Group	Characteristic	n
Teachers	M.A. in English	17
	Ph.D. in English or applied linguistics	8
	Teaching experience 1–5 years	9
	Teaching experience 6–10 years	10
	Teaching experience over 10 years	6
Students	Experimental group (age 18–20)	30
	Control group (age 18–20)	30

Instruments

Three instruments were used. First, a teacher questionnaire was divided into three parts: personal information; general information about the use of digital communication; and twelve situations in which digital communication might be used, rated as always, sometimes, rarely or never (see the Appendix). Second, a student attitude scale of 20 items was rated on a five-point Likert scale (Likert, 1932) covering motivation, engagement, confidence, learner autonomy and access difficulties. Third, a 50-point achievement test, parallel in its pre-test and post-test forms, measured reading, writing, speaking, listening and vocabulary (ten points for each skill). The instruments were reviewed by three specialists in applied linguistics. Internal consistency was estimated with Cronbach's alpha (Cronbach, 1951):

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{i=1}^{k}\sigma_i^2}{\sigma_T^2}\right) \qquad (1)$$

where k is the number of items, the numerator sums the variances of the individual items and the denominator is the variance of the total score. The coefficients were .84 for the teacher questionnaire, .87 for the attitude scale and .89 for the achievement test, all of which are acceptable.

Procedure

Both groups followed the same syllabus, were taught by the same instructor for three hours a week and sat the same tests. The control group received conventional face-to-face instruction with printed materials. In addition to the same classroom instruction, the experimental group used a class messaging group for daily exchanges, a forum on the university learning management system for weekly written tasks, email for individual feedback on writing, and two video-conference sessions per fortnight for speaking practice. Short videos and podcasts were shared for listening practice.

V. DATA ANALYSIS

Frequencies and percentages were computed for the teacher data, where F is the frequency of a response and N the number of respondents:

$$P = \frac{F}{N} \times 100 \qquad (2)$$

For the students' scores the mean and the standard deviation were calculated:

$$M = \frac{1}{n}\sum_{i=1}^{n} x_i \qquad (3)$$

$$s = \sqrt{\frac{\sum_{i=1}^{n}(x_i - M)^2}{n-1}} \quad (4)$$

Differences between the groups were tested with the independent-samples t-test and the effect size was expressed as Cohen's d (Cohen, 1988):

$$t = \frac{M_1 - M_2}{s_p\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \quad (5)$$

$$s_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}} \quad (6)$$

$$d = \frac{M_1 - M_2}{s_p} \quad (7)$$

Finally, the normalized gain of each group was computed (Hake, 1998), with the maximum possible score (S) equal to 50:

$$g = \frac{M_{post} - M_{pre}}{S_{max} - M_{pre}} \quad (8)$$

VI. FINDINGS

How often teachers use digital communication

Table 3 shows that all teachers use digital communication in language teaching, but in varying degrees: 28% always use it, 52% sometimes use it and 20% rarely use it. This leads to the conclusion that most teachers sometimes use digital communication.

Table 3. Frequency of using digital communication in language teaching (N = 25).

Always	Sometimes	Rarely	Never
7 (28.0%)	13 (52.0%)	5 (20.0%)	0 (0.0%)

Do teachers think digital communication is useful?

As shown in Table 4, 21 teachers (84%) think that the use of digital communication in language teaching is useful, whereas 4 teachers (16%) do not. Teachers are therefore largely in favour, in contrast with the division found for other classroom techniques, although the minority view reflects concerns about distraction and unequal access.

Table 4. Teachers' views on the usefulness of digital communication (N = 25).

Useful	Not useful
21 (84.0%)	4 (16.0%)

The situations where teachers use digital communication

Table 5 and Figure 2 show that teachers always use digital communication for announcements and reminders (64%), for sharing materials and assignments (48%), for listening practice (40%) and for vocabulary learning (36%). Teachers sometimes use it for feedback on writing (44%), peer collaboration (48%) and exposure to authentic culture (48%).

Digital communication is least frequently used for online quizzes and testing, where 56% of the teachers rarely or never use it, and for asynchronous discussion forums, where 48% rarely or never do so.

Table 5. Situations where teachers use digital communication, F (%), N = 25.

Situation	Always	Sometimes	Rarely	Never
1. Sharing materials	12 (48)	9 (36)	3 (12)	1 (4)
2. Feedback on writing	8 (32)	11 (44)	5 (20)	1 (4)
3. Speaking practice	5 (20)	10 (40)	8 (32)	2 (8)
4. Vocabulary apps	9 (36)	10 (40)	5 (20)	1 (4)
5. Discussion forums	4 (16)	9 (36)	9 (36)	3 (12)
6. Announcements	16 (64)	7 (28)	2 (8)	0 (0)
7. Peer group chats	7 (28)	12 (48)	4 (16)	2 (8)
8. Listening practice	10 (40)	11 (44)	4 (16)	0 (0)
9. Online quizzes	3 (12)	8 (32)	9 (36)	5 (20)
10. Authentic culture	6 (24)	12 (48)	6 (24)	1 (4)

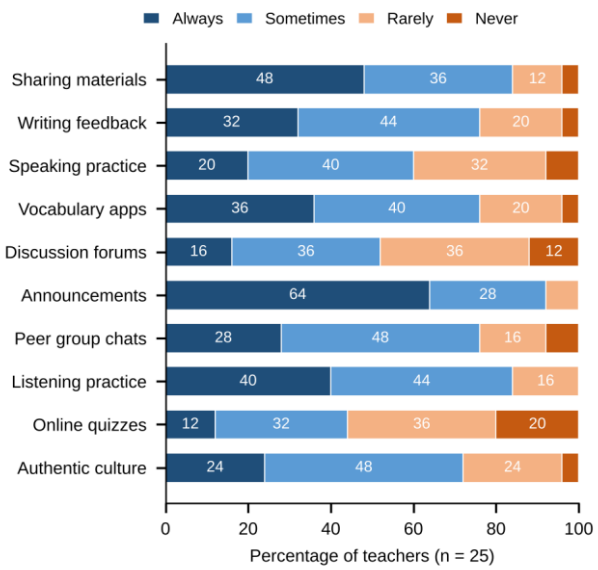


Figure 2. Percentage distribution of teachers' use of digital communication by situation.

Students' attitudes towards digital communication

Table 6 presents the attitudes of the experimental group at the end of the intervention. Means were interpreted as low (1.00–2.33), moderate (2.34–3.67) or high (3.68–5.00). Students reported high levels of motivation, engagement, learner

autonomy and confidence. Access difficulties, such as unstable connections and data costs, were rated as moderate, which confirms that unequal access remains a real concern.

Table 6. Students' attitudes towards digital communication (n = 30).

Dimension	M	SD	Level
Motivation	4.21	0.62	High
Engagement	4.05	0.71	High
Learner autonomy	3.96	0.69	High
Confidence in using English	3.88	0.78	High
Access difficulties	2.74	0.93	Moderate

Effect on students' achievement

Table 7 shows that the two groups were equivalent before the intervention ($t(58) = -0.22$, $p > .05$). After ten weeks, the experimental group ($M = 35.8$, $SD = 4.9$) significantly outperformed the control group ($M = 29.1$, $SD = 5.6$), $t(58) = 4.93$, $p < .001$, with a large effect size ($d = 1.27$). The normalized gain was $g = 0.44$ for the experimental group and $g = 0.17$ for the control group. Paired-samples tests also showed significant improvement within each group (experimental $t(29) = 13.34$; control $t(29) = 4.69$; both $p < .001$), although the improvement was much larger in the experimental group (Figure 3).

Table 7. Pre-test and post-test results of the experimental and control groups (df = 58).

Test	Exp. M (SD)	Control M (SD)	t	p	d
Pre-test	24.6 (5.2)	24.9 (5.4)	−0.22	>.05	0.06
Post-test	35.8 (4.9)	29.1 (5.6)	4.93	<.001	1.27

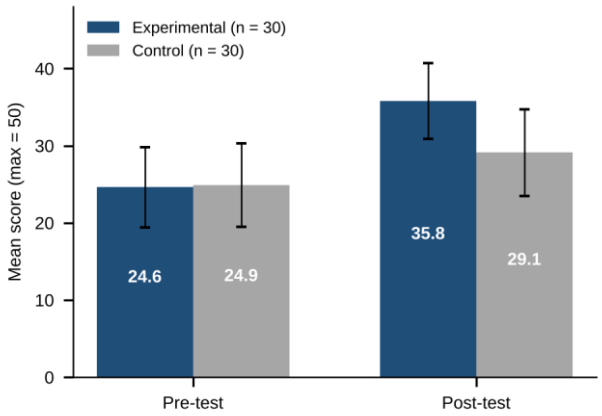


Figure 3. Mean pre-test and post-test scores of the experimental and control groups (error bars show ±1 SD).

As Figure 4 shows, the experimental group scored higher on all five skills. The largest differences were found in speaking (1.8 points) and writing (1.4 points), the two skills that benefit most from the interaction and feedback provided by video calls, voice notes, forums and email.

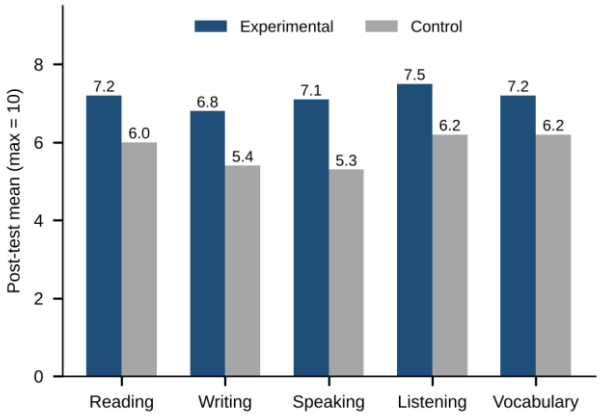


Figure 4. Post-test mean scores by language skill.

DISCUSSION

The data indicate that the majority of participating teachers use digital communication in language teaching, and that most of them consider it useful. This agrees with research that regards technology-mediated communication as an integral part of contemporary language pedagogy (Warschauer and Healey, 1998; Stockwell, 2012). The pattern of use is revealing: teachers use digital communication most readily for organizational and input-related purposes, such as announcements, sharing materials and listening practice, where the benefits are immediate and the risks are low. They use it less for testing, which can be attributed to concerns about security and academic integrity and to the lack of reliable procedures for online assessment.

The finding that discussion forums and speaking practice are used less often than messaging is consistent with the observation that tools that demand more planning and technical skill are adopted more slowly (Davis, 1989; Hampel and Stickler, 2005). This suggests that teacher training should focus on task design and not only on the technical operation of the tools.

The achievement results support the claim that interaction in the target language, mediated by digital tools, promotes language development (Long, 1996; Swain, 1985). The larger gains in speaking and writing are consistent with the idea that pushed output and timely feedback are the mechanisms that explain the effect. The high motivation and autonomy reported by students agree with Lai and Gu (2011), who found that learners use technology to regulate their own learning outside the classroom. At the same time, the moderate rating of access difficulties shows that the benefits of digital communication cannot be assumed to be equally available to every learner.

Several limitations should be noted. The sample was small and was drawn from one institution; the intervention lasted only ten weeks; and the experimental group received more contact with the teacher and the language than the control group, so part of the effect may be due to increased time on task rather than to the technology itself. Further research should use larger samples, delayed post-tests and comparisons between different tools.

SUGGESTED GUIDELINES FOR TEACHERS

If digital communication is used in a principled and systematic way, it can increase learners' use of English and promote their autonomy. The following guidelines are suggested for teachers who plan to use it in the classroom:

1. *Start with a pedagogical purpose.* Choose a tool because it serves a learning objective, not because it is available. Each task should state what learners will do and why.
2. *Use authentic tasks and real audiences.* Learners should write to or speak with a real reader or listener, such as a partner class, a classmate or a community forum.
3. *Balance synchronous and asynchronous tools.* Use live sessions for fluency and asynchronous tools for planning, reflection and feedback.
4. *Give timely, focused feedback.* Provide feedback on a limited number of errors at a time, and avoid overcorrection which may reduce motivation.
5. *Set clear rules of netiquette and availability.* Agree on languages, response times and acceptable behaviour to protect both teachers' workload and learners' privacy.

6. *Promote the use of English.* Encourage learners to use English in all messages and forums, while permitting the first language where it clarifies instructions or concepts.
7. *Ensure equity of access.* Use low-bandwidth tools, allow offline completion and provide institutional devices or connectivity where possible.
8. *Train teachers and learners.* Offer professional development on online task design and teach learners digital literacy and critical evaluation of online sources.
9. *Evaluate and adapt.* Collect learners' opinions regularly and review the use of each tool against the learning outcomes.

In addition, four factors should be considered when deciding whether to use a digital tool: efficiency (can the objective be achieved more effectively with the tool?), learning (will it support the acquisition of English?), naturalness (do participants feel comfortable with it?), and external relevance (will it help learners to use English in the world beyond the classroom?).

VII. CONCLUSION

Digital communication has become a permanent feature of language learning. This study attempted to show that it has an important role to play in teaching and learning English: it is used by teachers for a wide range of purposes, it is considered useful by most of them, it motivates learners and it improves achievement, particularly in speaking and writing. The study also showed that its use is least developed in assessment and in tasks requiring extended asynchronous interaction, and that unequal access is still a challenge.

Finally, if digital communication is to help students achieve competence in English, it must be used sensibly, purposefully, systematically and on a regular basis. Technology does not replace the teacher; rather, the quality of the task design, the feedback and the learner–teacher relationship determines whether digital tools lead to learning.

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