

TEACHERS' ATTITUDES TOWARDS THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHING ENGLISH: A SYSTEMATIC REVIEW OF THE LITERATURE

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Received:	10/12/2022	This article aims to review previous empirical studies between 2011 and 2021 to capture English as a foreign language teachers' attitudes towards the use of information and communication technology in teaching English, point out the shortcomings of prior research, and propose future research directions. The systematic review of the literature method was employed to collect and analyse data for this study. Sixteen scientific articles and dissertations related to the research domain were cautiously refined. Findings from these studies indicated that most teachers had positive attitudes towards the use of information and communication technology in teaching English. Meanwhile, several studies shed light on specific factors affecting teachers' attitudes towards the use of Information and Communication Technology in teaching English. Some contradictory findings from these research projects have been pointed out. In particular, most of the studies revealed certain limitations, such as research methods, sample size, and the scope of the study. In addition, no research in this field has been conducted at higher education institutions in Vietnam.
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THÁI ĐỘ CỦA GIÁO VIÊN ĐỐI VỚI VIỆC SỬ DỤNG CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG VÀO VIỆC GIẢNG DẠY TIẾNG ANH: MỘT NGHIÊN CỨU TỔNG QUAN HỆ THỐNG

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THÔNG TIN BÀI BÁO		TÓM TẮT
Ngày nhận bài:	10/12/2022	Bài báo này nhằm mục đích đánh giá các nghiên cứu thực nghiệm trong khoảng thời gian từ 2011 đến 2021 để tìm hiểu về thái độ của giáo viên giảng dạy tiếng Anh đối với việc sử dụng công nghệ thông tin và truyền thông vào giảng dạy tiếng Anh, tìm ra những thiếu sót của các nghiên cứu này và đề xuất hướng nghiên cứu tiếp theo. Đề thu thập và phân tích số liệu, tác giả sử dụng phương pháp nghiên cứu lý thuyết hệ thống với nguồn tài liệu lý thuyết được chọn lọc từ 16 bài báo và luận án khoa học liên quan đến lĩnh vực nghiên cứu. Kết quả cho thấy, hầu hết các giáo viên có thái độ tích cực đối với việc sử dụng công nghệ thông tin và truyền thông vào việc giảng dạy tiếng Anh. Đồng thời, mặc dù một số nghiên cứu có phát hiện đối lập nhau, các nghiên cứu này đã chỉ ra các yếu tố ảnh hưởng tới thái độ của giáo viên đối với việc sử dụng công nghệ thông tin và truyền thông trong giảng dạy tiếng Anh. Đặc biệt, hầu hết các nghiên cứu đều bộc lộ một số hạn chế nhất định về phương pháp nghiên cứu, mẫu đại diện tham gia nghiên cứu và phạm vi nghiên cứu. Ngoài ra, không có nghiên cứu trong lĩnh vực này được thực hiện tại cơ sở giáo dục đại học ở Việt Nam.
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1. Introduction

Over the past thirty years, we have witnessed the widespread use of information and communication technology (ICT) in every sector of society, including education in developed and developing countries. Empirical evidence of the transformative effects of information and communication technology is widely visible in the changing ways people live and work. Computers, laptops, mobile devices and other digital technologies have changed common practices in most work environments and at homes. For instance, mobiles are ubiquitous in developed countries and increasingly prevalent everywhere, enabling almost continuous connections to people and sources of information worldwide. Significant changes in how people access information and interact with each other have laid the foundations for broad changes in society [1].

In the education domain, teachers and learners have been searching for innovative methods to enhance the quality of their teaching and learning. Previous studies have shown that using ICT appropriately can raise educational quality and connect learning to real-life situations [2], [3]. Therefore, teachers, especially English ones, have employed ICT in their teaching practices with the belief that ICT is a valuable tool to enhance the quality of their teaching [4] -[6]. Two decades ago, for example, online communication was not widespread in an English classroom. However, such a learning activity may be easily seen in most modern classes. Through ICT, online course materials can be accessible for teachers and students, and learning can occur anytime and anywhere.

Many educational systems have been concerned about how effectively ICT can be used in teaching and learning. This has caused significant investment in educational technology facilities across several nations, enabling their integration into the teaching and learning process [7]. Many educational institutions are outfitted with ICT tools that allow for their usage in instruction [8]. In some cases, however, the use of ICT has yet to be able to transform educational practices. A number of teachers have been reported to use ICT for administrative purposes only rather than for teaching and learning activities [9]. In some other cases, they have been using ICT to complement their traditional ways of teaching [9], [10].

The effective use of ICT in teaching depends on many factors rather than the availability of ICT facilities. Of all the factors, teachers' attitudes towards the use of ICT have been frequently claimed to be the most crucial ones [11], [12]. In English teaching, some studies argued that teachers' positive attitudes were a significant predictor of their ICT use and their successful teaching practices with ICT [12] - [14]. Therefore, this study reviews the empirical research on the teachers' attitudes towards the use of ICT in teaching English with an attempt to find out the EFL teachers' attitudes towards the use of ICT in their teaching, the current research situations in the field, and their limitations, then provide suggestions for future research. Especially the present study addresses the following research questions:

1. *What are the teachers' attitudes towards the use of ICT in teaching English?*
2. *What are the factors influencing teachers' attitudes towards the use of ICT in teaching English?*
3. *What are the limitations of the previous studies?*

2. Methodology

2.1. Theoretical basis

2.1.1. The use of information and communication technology in teaching English

According to UNESCO, ICT is a diverse set of technological tools and resources used to transmit, store, create, share or exchange information, including computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, visio/video-conferencing, etc.) [15]. Since its introduction in education, researchers and English teaching practitioners have proposed diverse concepts of the use of ICT in teaching. Hew and Brush argued that in general terms it is any use of "computing devices such as desktop

computers, laptops, handheld computers, software, or Internet in K-12 schools for instructional purposes” [16, p. 225]. However, more specifically, it refers to the use of technology by teachers for instructional preparation, instructional delivery, and technology as a learning tool for students [17]. Drent and Meelissen considered it as the use of educational tools, including computers, digital cameras, the Internet and the World Wide Web, to facilitate learning outcomes [18].

In the domain of English language teaching, Levy referred to it as the use of ICT applications and categorised these applications according to specific EFL instructional purposes, such as developing students’ knowledge and skills for grammar, vocabulary, pronunciation, reading, writing, speaking, listening, and cultural understanding [19]. Davies et al. stated that the term ICT is restricted to describing computer- and internet-based technologies, covering both generic software applications (e.g. word processors, presentation software, email packages, web browsers, search and download) and computer-assisted language learning (CALL) software applications plus websites useful for teaching foreign languages [20]. In summary, because ICT is a broad term, in the definitions of the use of ICT in teaching, researchers used diverse terms to refer to ICT. Therefore, in the studies on teachers’ attitudes towards the use of ICT in teaching English, some popular terms such as the use of technology, instructional technology, computers, CALL, technology-enhanced language learning (TELL), mobile-assisted language learning (MALL), digital technologies, web-based technologies were employed to refer as attitude objects.

2.1.2. Definition of teachers’ attitudes towards the use of information and communication technology in teaching English

As the most distinctive and indispensable concept in social psychology, many researchers have tried to define this concept so far. In 1867, Herbert Spencer, one of the earliest psychologists to employ the term, wrote in his work *First Principles*: “Arriving at correct judgments on disputed questions, much depends on the attitude of mind we preserve while listening to, or taking part in, the controversy; and for the preservation of a right attitude, it is needful that we should learn how true, and yet how untrue, are average human beliefs” [21, p. 4].

Thomas and Znaniecki argued that attitudes are individual mental processes that determine not only an individual’s actual but also potential responses in the social world [22]. The two authors also stated that an attitude’s directiveness towards some object may be defined as a “state of mind of the individual towards a value” [22, p. 21]. Similarly, Allport argued, “an attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related” [23, p. 810]. More simply, Fishbein and Ajzen reported that an attitude represents a general feeling of an individual, which can be favourableness or unfavourableness towards some stimulus object [24]. The favourable or unfavourable feelings are the same as the positive or negative values in Bogardus’ definition [25] or the same as the affect for or against a psychological object in Thurstone’s argument [26]. However, Allport claimed that some attitudes were not readily categorised into either of these bipolar positions. He highlighted that complacency, amusement, tolerance, and open-mindedness are not easily reduced to “affect for or against” an object [27].

Several researchers defined the attitude based on three components: affective, behavioural, and cognitive [24], [28] - [31]. The cognitive component refers to belief or knowledge about something; the affective component is the feelings about something, and the behavioural component refers to act in certain ways with regard to something. While there is no universally accepted definition of attitude, most researchers agreed that an attitude refers to someone’s positive or negative judgment of specific attitudinal objects or stimuli as in the Schematic Conception of Attitudes [28]. These stimuli can be individuals, situations, social issues, social groups or other attitudinal objects. Therefore, teachers’ attitudes towards the use of ICT may be defined as a complex, multi-dimensional construct comprised of cognitive, affective, and behavioural (conative) components or simply as teachers’ positive or negative feelings (evaluative affect) about performing the target

behaviour. The cognitive component consists of teachers' factual knowledge about the use of ICT in teaching English. The affective component represents teachers' emotional response or liking to using ICT in teaching English. The behavioural component involves teachers' overt behaviour directed towards using ICT in teaching English.

2.2. Research methods

In this research, Systematic Literature Review (SLR) was employed as the primary method to select and review previous research to address the research questions. SLR, "a systematic way of collecting, critically evaluating, integrating, and presenting findings from across multiple research studies on a research question or topic of interest" [32, p. 1], was employed because it offers "a broader and more accurate level of understanding than a traditional literature review" [32, p.1]. It helps to identify all research addressing the research questions and "give a balanced and unbiased summary of the literature" [33, p. 381]. Guided by Rose et al. [34], we established inclusion criteria that articles must (1) contain empirical research; (2) be published in prestigious academic journals (peer-reviewed and indexed in the Web of Science or Scopus such as Teflin Journal, Theory and Practice in Language Studies, and Computer Assisted Language Learning); (3) be connected to EFL teachers' attitudes towards the use of ICT in teaching English; (4) have been published between 2011 and 2021; (5) be aware of factors influencing EFL teachers' attitudes towards the use of ICT in teaching English, mentioning this construct in the review of literature, findings or discussion of the articles.

Based on these criteria, we did the internet search through Google Scholar and ProQuest Dissertations & Theses Global to obtain academic papers and doctoral theses in response to the purpose of the study. Using five following terms for searching: (1) EFL teachers' attitudes towards the use of information and communication technology; (2) teachers' attitudes towards the use of information and communication technology in teaching English; (3) EFL teachers' attitudes towards using computers in teaching English; (4) teachers' attitudes towards using ICT tools in teaching English; and (5) EFL teachers' attitudes towards the use of technology in teaching English, total search results were 69,901. Some further criteria were employed to filter relevant studies for review. First, since we were concerned about research related to EFL teachers' attitudes towards the use of ICT in teaching English, only papers with titles encompassing the phrases "EFL teachers' attitudes", "English teachers' attitudes" were selected. Those papers which included the three phrases "teachers' attitudes", "technology", "information and communication technology", or specific ICT tools such as mobiles, phones and computers but did not describe English teachers as research participants were not chosen. Also, we did not select those studies whose participants were pre-service teachers. Next, we compared the titles of papers in the search results using the above five search terms and shortlisted them for review. Specifically, the same studies found in the search results of all five search terms were counted as one study. After the filtering process, only 16 journal articles and dissertations containing EFL teachers' attitudes towards the use of ICT in teaching English were cautiously selected, briefly summarised, and systematically reviewed.

3. Findings and discussions

3.1. What are the teachers' attitudes towards the use of information and communication technology?

As can be seen from Table 1, previous studies reported relatively diverse findings about teachers' attitudes towards the use of ICT in teaching English. While most studies reported that teachers embraced generally positive (favourable) or highly positive (highly favourable) attitudes towards the use of ICT in teaching English [2] – [8], [10], [14] – [16], the others showed that their attitudes were at moderate (neutral) level [12], [13] or negative [11]. These contradictory attitudes may be explained by the differences in the context of institutional culture as argued in Shameem's [35] and Canals & Al-Rawashdeh's [36]. In addition, teachers' positive behavioural intentions to use ICT were indicated [3], [4], [6], [7], [10].

3.2. What are the factors influencing teachers' attitudes towards the use of ICT in teaching English?

Factors that influence the teachers' attitudes were uncovered. These factors can be categorised into teachers' personal factors (gender, age, academic qualifications, teaching experience) [4], [11], [16]; institution-related factors (school climate, institutional support, school location, administration, policy, students' readiness and attitudes) [1], [4] – [7], [13], [15]; ICT-related factors (ICT resources, computer literacy/ ICT competence/ ICT self-efficacy, ICT's usefulness, ICT training) [2] – [6], [8], [12], [14], [15]; teachers' pedagogical beliefs [9], [13], [16]; and social factors (subjective norms) [15]. Some contradictory findings can be found in these studies. Some studies, for example, indicated that teaching experience and qualifications, associated with teachers' attitudes [4], [11], [16]. By contrast, other studies postulated that there was no relationship between these factors and teachers' attitudes [2], [14].

Table 1. A Summary of the Selected Prior Studies ($n = 16$)

Authors	Focuses	Instruments	Participants	Major findings
1 Raygan & Moradkhani [37]	The relationship between teachers' school climate, Technological Tedagogical Content Knowledge (TPACK), and attitudes and their technology integration	Survey questionnaire	209 Iranian EFL teachers	School climate had a weak but significant positive influence on teachers' attitudes towards technology integration.
2 Noori [38]	Exploration of lecturers' attitudes towards instructional technology, their actual instructional technology use, and the challenges in the success of using it in classrooms	Survey questionnaire	53 EFL lecturers from five public universities in Afghanistan	Teachers had highly positive attitudes. These attitudes were significantly correlated with age, computer training experience, competency, and technology access. However, there was no significant difference in teachers' attitudes towards instructional technology regarding their teaching experience, gender, and educational qualification.
3 Jahanban-Isfahlan, Tamjid & Seifoori [39]	Exploration of teachers' attitudes towards, their perceived competency in, and their actual use of instructional technology in their classrooms	Survey questionnaire	120 EFL teachers from junior and senior high schools in Iran	Teachers' attitudes towards TELL were positive and indicated their initiation into the innovation-decision process. Teachers had passed the Knowledge and Persuasion stages and were most likely advancing to the Decision phase.
4 Ziad [40]	Exploration of teachers' attitudes towards ICT implementation in the classroom and the relationships between this attitude and their characteristics	Survey questionnaire & semi-structured interviews	56 EFL secondary education teachers in Morocco	Three components of teachers' attitudes (affective, cognitive and behavioural) were generally positive, especially the respondents who had a behavioural readiness to use computers in the classroom. Teachers' perceived benefits of ICT for personal and educational level, age, teaching experience, school location, and ICT training affected teachers' attitudes, but training duration did not.
5 Dogan & Akbarov [41]	Exploration of teachers' attitudes towards the use of mobile devices and other digital	Survey questionnaire	159 EFL teachers from schools and universities in	Teachers expressed positive attitudes towards using mobile devices in the ESL learning context and thought that mobile learning

Authors	Focuses	Instruments	Participants	Major findings	
	contents in classroom learning activities		Turkey	would play an essential role in future English learning. The lack of training, students' attitudes, school administrations and pedagogical justification were four obstacles to using mobile devices in teaching processes.	
6	Santiago [42]	Exploration of teachers' attitudes towards the use of technology in teaching	Survey questionnaire & semi-structured interviews	7 EFL elementary or secondary teachers in Puerto Rico	All teachers revealed an optimistic attitude towards the use of technology, were in favour of using it and were willing to use it any time. Teachers' perceived usefulness of using technology in teaching-learning, the ICT's role in the modern era, the support from the Department of Education, and the availability of resources influenced teachers' attitudes towards using ICT.
7	Golshan & Tafazoli [43]	Exploration of teachers' attitudes towards TELL tools in their language courses and the challenges they face	Survey questionnaire & semi-structured interviews	32 EFL teachers from universities and language institutes in Iran	Teachers felt comfortable with technology, believed that technology could save time and effort, and desired the new TELL programs and tools. The policy and lack of administrator's concerns were challenges teachers faced.
8	Pinner [44]	Exploration of teachers' attitudes to and motivations for using CALL	Interview	4 EFL teachers from an English language school in England	Most teachers used CALL because they were intrinsically motivated to do so or saw the pedagogic value of using it. They wanted to use computers more in their classes.
9	Liu et al. [45]	The influence of pedagogical beliefs on teachers' attitudes towards technology acceptance	Survey questionnaire	202 EFL teachers from several universities in China	Teachers with constructivist pedagogical beliefs were found to have more positive attitudes towards the acceptance of technology in teaching English.
10	Cahyani & Cahyono [46]	Exploration of teachers' attitudes towards the use of technology and the reasons for their use of technology in classrooms	Survey questionnaire	37 EFL teachers from junior and senior high schools and a university in Indonesia	All teachers favoured using technology in their language classrooms, and they reported that they should use it to develop students' language skills. Teachers' perceived benefits of using technology in teaching English influenced their attitudes.
11	Rahimi & Yadollah [47]	The effect of teachers' personal and technology-related characteristics on ICT use in English classes	Survey questionnaire	248 Iranian EFL teachers from schools	ICT use was considered an extra burden for teachers who just wanted to finish the textbook on schedule, and teachers preferred to use simple devices/applications that did not take much class time. Age, years of teaching experience, computer literacy, and academic credential were correlated with teachers' attitudes, but gender was not.

	Authors	Focuses	Instruments	Participants	Major findings
12	Hong et al. [48]	Examining ESL teachers' computer self-efficacy, attitudes towards computers and classroom computer use, and investigating gender differences and their relationships	Survey questionnaire	102 ESL teachers from secondary schools in Malaysia	Teachers' attitudes towards computers are at a moderate level. Gender was not significantly correlated with teachers' attitudes towards computers. However, there was a significantly low positive relationship between teachers' self-efficacy and attitudes towards computers.
13	Canals & Al-Rawashdeh [36]	Exploration of teachers' attitudes towards using instructional technology and the changes of these attitudes over time	Survey questionnaire & interviews	6 EFL teachers from a university in Jordan	Teachers' contradictory attitudes towards using technology for language instruction were uncovered, and teachers' degrees of computer readiness, beliefs about technology applied to language teaching, their view on students' computer readiness, and the amount and context of the training yielded their contradictory attitudes.
14	Ahmed et al. [49]	Exploration of teachers' attitudes towards integrating ICTs in teaching, and the influence of gender and computer competence on their attitudes towards ICTs or their uses of ICTs in teaching	Survey questionnaire	81 EFL teachers from universities in Yemen	Teachers held highly positive attitudes towards using ICTs in language teaching. Teachers' perceived benefits and effectiveness of using ICT in teaching-learning positively correlated with their attitudes. However, no significant differences in teachers' attitudes because of gender, academic level or computer competence.
15	Huang, Teo & Zhou [50]	Exploration of teachers' attitudes towards technology use and the influence of these attitudes on their technology acceptance in teaching	Semi-structured, in-depth interviews	14 EFL teachers from universities in China	Most teachers had positive attitudes towards technology assistance in English teaching, which affected their use of technology in teaching. Facilitating conditions, teachers' perceived usefulness of using technology in English teaching and subjective norms impacted their attitudes.
16	Burkšaitienė & Selevičienė [51]	Exploration of teachers' attitudes towards Web 2.0 technologies and their use in the process of teaching English	Survey questionnaire	39 EFL teachers from colleges and universities in Lithuania	Teachers had positive attitudes towards Web 2.0 tools and their use in teaching English. Teachers' work experience in teaching English, academic qualifications and perceived pedagogical value for teaching English positively correlated with their attitudes.

3.3. What are the limitations of the previous studies?

It is evident from Table 1 that most of the studies reviewed reveal certain shortcomings. First of all, most studies are methodologically limited. A majority of these studies (11 out of 16) utilised only one technique or method of data collection like questionnaire survey (quantitative) [1] – [3], [5], [9] – [12], [14], [16] or interview (qualitative) [8], whereas few studies combined questionnaire and interview instruments [4]–[8]. As mentioned in the previous section, a teacher's attitude is a complex, multi-dimensional psychological construct, and the employment of a single method is insufficient to explore the teacher's attitudes towards using ICT in teaching

English. Therefore, a mixed-method approach combining quantitative and qualitative techniques should be adopted to ensure the validity of the findings.

Secondly, some researchers conducted a case study that focused on several teachers [6], [8], [13] or small-scale research with limited number of participants [2], [4], [7], [10], [14] - [16] to gather information about teachers' attitudes, these findings might not be representative for other cases or settings. This limitation suggests that larger-scale studies should be carried out.

Thirdly, research made an investigation into factors affecting teachers' attitudes limited in their scopes; that is, they focused on several factors such as teachers' personal factors [2], [4], [11], [14], [16], or teachers' pedagogical beliefs [9], [13], [16]. It, therefore, would be impossible for them to provide a comprehensive insight into a set of factors associated with the teachers' attitudes as argued in Roger's [52] or Zhao & Frank's [53]. This implies that more comprehensive research into factors (the scope of variables) affecting teachers' attitudes should be conducted to solve this persistent puzzle.

Finally, to my knowledge, there currently has been no research project to explore EFL teachers' attitudes towards the use of ICT in teaching English in Vietnam. As pointed out in Shameem's [35] and Albirini's [12], cultural factors, especially teachers' cultural perceptions, and institutional factors significantly influenced their attitudes towards using ICT in their teaching practices. Research into Vietnamese EFL teachers' attitudes towards the use of ICT would make a significant contribution to the gap in the existing literature in this field of study.

4. Implications and conclusion

To sum up, certain contributions to the existing literature regarding EFL teachers' attitudes towards the use of ICT in teaching English, the factors influencing their attitudes and major limitations have been explored through this systemic review of previous empirical studies. While most studies pointed out that teachers embraced positive attitudes, the others yielded contradictory findings. In addition, results on factors affecting their attitudes were also diverse and limited in the scope of variables. Furthermore, this study has shed light on some implications for future research to be conducted in global and Vietnamese contexts. First, methodologically, a mixed-methods approach embracing quantitative and qualitative data should be utilised to attain the validity and comprehensive insight of the findings. Second, some reviewed studies with small-scale participants implied that future research should be carried out with a larger sample size to enhance the generalisations to other contexts. Finally, although research projects on EFL teachers' attitudes towards the use of ICT have captured substantial attention worldwide over the past ten years, there have, to the best of our knowledge, been no studies concerning EFL teachers' attitudes towards the use of ICT in tertiary institutions in Vietnam until now. Therefore, this research domain still offers potential fruitful results for researchers to cultivate.

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