Technology-Enhanced Communicative Language Teaching (T-CLT): Teacher Trainee Preparedness and Challenges

Swathy A. V. & Pratheesh Abraham

Abstract

Technology-enhanced communicative language teaching (T-CLT) brings together the interactional orientation of communicative language teaching (CLT) and the learning opportunities afforded by digital technologies. Its effective implementation depends not only on access to devices but also on teachers' ability to select and use technologies in ways that serve communicative purposes. This study explored the perceived preparedness and challenges of B.Ed. English trainee teachers in implementing T-CLT during teaching practice. A descriptive survey design was used. Data were collected through a researcher-developed questionnaire comprising 25 five-point Likert-scale statements organised under preparedness and awareness, confidence and competence, challenges and barriers, and implementation practices. The questionnaire was administered online to 40 trainee teachers selected through convenience sampling. The available study record indicates a generally positive orientation towards the integration of digital tools and communicative pedagogy. It also describes trainees' confidence as developing rather than uniformly assured and identifies practical constraints relating to school infrastructure, instructional time, internet connectivity, and the management of learners with differing proficiency levels. Since a verifiable item-level frequency dataset was not available for this revision, the present article reports these patterns descriptively and does not claim item-wise percentage results or statistical

significance. The study highlights the need for sustained practical training, opportunities for simulated technology-supported teaching, and reliable infrastructure in teaching-practice schools.

Keywords: technology-enhanced communicative language teaching, teacher preparedness, trainee teachers, ICT integration, TPACK, English language teaching

Introduction

Digital technologies have become increasingly visible in educational practice. Multimedia resources, online platforms, mobile applications, and technology-mediated communication have expanded the ways in which teachers can present content and organise learning. In English language teaching (ELT), these developments offer opportunities to create learning environments in which learners encounter language, interact with others, and use English for meaningful purposes.

Communicative language teaching (CLT) emerged as a response to approaches that placed primary emphasis on linguistic structures at the expense of communicative use (Richards & Rodgers, 2001). Its theoretical foundation includes the concept of communicative competence. Hymes (1972) argued that knowing a language involves more than producing grammatically correct sentences; it also involves understanding when and how language is appropriate in a particular social context. Canale and Swain (1980) developed an influential framework of communicative competence for second-language teaching and testing. In CLT, interaction is both a means and an objective of learning, and classroom activities are expected to promote authentic communication, learner participation, negotiation of meaning, and contextualised language use (Richards & Rodgers, 2001).

The integration of information and communication technology (ICT) into language teaching has extended communicative activity beyond the conventional classroom. Online discussion spaces, video-conferencing tools, digital storytelling applications, and language-learning platforms can provide access to varied language input and opportunities for collaboration (Warschauer & Kern, 2000). However, the presence of technology does not automatically result in communicative learning. Chapelle (2001) emphasises that technology-based tasks should support meaningful interaction and processes relevant to second-language acquisition rather than function merely as presentation tools. In this article, technology-enhanced communicative language teaching (T-CLT) refers to the purposeful integration of digital tools and resources into CLT to support the development of communicative competence.

Effective integration requires teachers to combine technological knowledge with pedagogical and subject knowledge. The technological pedagogical content knowledge (TPACK) framework explains this intersection (Mishra & Koehler, 2006). Teachers must be able to identify not simply which technology is available, but which tool is appropriate for a particular language-learning objective. Research also indicates that teachers' knowledge, confidence, beliefs, and institutional contexts influence technology integration (Ertmer & Ottenbreit-Leftwich, 2010). External barriers, such as inadequate equipment and unreliable connectivity, may operate alongside internal barriers relating to beliefs and confidence (Ertmer, 1999).

The National Education Policy 2020 recognises the role of technology in teaching, learning, digital literacy, and teacher professional development (Ministry of Human Resource Development, 2020). The realisation of these aims depends in part on how well teacher education programmes prepare prospective teachers to use technology purposefully. Teaching practice is

particularly important because it requires trainees to translate theoretical knowledge into classroom decisions under real institutional and learner-related conditions.

Although CLT and ICT integration have each received considerable scholarly attention, the readiness of pre-service English teachers to combine them during teaching practice warrants further examination. The present study therefore explores B.Ed. English trainee teachers' perceived preparedness, confidence, reported practices, and challenges in implementing T-CLT.

Review of Literature

Communicative Competence and CLT

The development of CLT marked a shift from viewing language learning primarily as the mastery of grammatical structures towards the ability to use language appropriately and effectively. Hymes (1972) broadened the concept of language competence by drawing attention to the social and cultural conditions governing communication. Canale and Swain (1980) further elaborated communicative competence in relation to second-language teaching and assessment. Littlewood (1981) described CLT as an approach that gives attention to both the functional and structural dimensions of language. Richards and Rodgers (2001) similarly emphasised interaction as central to the learning process. Savignon (2002) highlights the importance of interpreting and adapting communicative principles within teacher education contexts.

Technology and Communicative Language Teaching

Computer-assisted and network-based language learning have created opportunities for learners to engage with authentic materials and communicate through digital environments. Warschauer and Kern (2000) foregrounded communication and collaboration in network-based

language teaching. Chapelle (2001) argued that technology-supported language tasks should be grounded in principles of language acquisition and should create opportunities for interaction and feedback. Dudeney and Hockly (2007) provide practical guidance on using blogs, podcasts, and interactive platforms in language classrooms.

Recent research has examined technology-supported communicative learning from different perspectives. Gorham et al. (2024) investigated peer feedback on communicative skills in an EFL course across different learning modalities. Del Moral Pérez et al. (2024) examined oral narratives produced with a digital storytelling application by early childhood education students. Quevedo-Webb et al. (2025) explored virtual-reality activities in lesson planning for critical intercultural communicative competence in Spanish. At a conceptual level, Rodríguez-Piñero (2025) argues that digital communication should be recognised as an important dimension of communicative competence. Xie and De Dios (2025) likewise draw attention to digital literacy and cultural exchange in language education.

Taken together, this literature suggests that digital technologies can extend opportunities for language use, interaction, and multimodal communication. Nevertheless, the educational value of a tool depends on the task designed around it. A video, application, or online platform becomes pedagogically meaningful when it supports a defined language-learning purpose and gives learners opportunities to communicate.

Teacher Preparedness and Barriers to Technology Integration

The TPACK framework indicates that effective technology integration requires the coordination of technological, pedagogical, and content knowledge (Mishra & Koehler, 2006). Ertmer (1999) distinguishes first-order barriers, which include external constraints such as access

to equipment, time, and technical support, from second-order barriers, which include teachers' beliefs and assumptions about teaching and learning. Ertmer and Ottenbreit-Leftwich (2010) further identify knowledge, confidence, beliefs, and institutional culture as interacting influences on teachers' use of technology.

The preparation of pre-service teachers is therefore not limited to providing access to digital devices. It also involves opportunities to plan, practise, evaluate, and reflect on technology-supported teaching. Tondeur et al. (2012) synthesised qualitative evidence on preparing pre-service teachers to integrate technology, while UNESCO's (2018) ICT Competency Framework for Teachers provides guidance for developing teachers' capacity to use ICT in education. Research in language education also points to constraints involving limited instructional time, inadequate training, scarce resources, and the needs of learners from diverse backgrounds (Fung et al., 2025; Xie & De Dios, 2025).

Research Gap, Questions, and Objectives

The literature reviewed above establishes the relevance of communicative pedagogy and technology integration, but it also indicates the need to understand how prospective English teachers perceive their readiness to combine the two during teaching practice. This study focuses on B.Ed. English trainee teachers and is guided by the following questions:

RQ1. How do B.Ed. English trainee teachers perceive their preparedness and confidence to implement T-CLT during teaching practice?

RQ2. What challenges do they report in integrating digital tools with communicative language teaching, and what forms of support may strengthen their practice?

The objectives were to:

1. Examine the perceived preparedness of English trainee teachers to implement T-CLT in English language classrooms.
2. Explore their perceptions of the pedagogical usefulness of digital tools in supporting communicative competence and the language skills of listening, speaking, reading, and writing.
3. Examine their self-reported confidence and digital pedagogical competence in applying T-CLT strategies during teaching practice.
4. Identify the challenges and institutional barriers they report when integrating technology with communicative language teaching.
5. Suggest pedagogical and training measures to strengthen T-CLT within B.Ed. English teacher education.

Methodology

Research Design

The study employed a descriptive survey design to examine trainee teachers' perceptions, reported practices, and experiences in relation to T-CLT. A survey was considered appropriate for collecting responses from a defined group and describing the patterns represented in those responses (Creswell & Creswell, 2018; Fraenkel et al., 2012). The study is descriptive and does not test causal relationships or make population-level predictions.

Participants and Sampling

The sample consisted of 40 B.Ed. English trainee teachers selected through convenience sampling on the basis of accessibility and willingness to participate. The participants were associated with English methodology and teaching-practice activities. As the sample was non-

probabilistic and limited in size, the findings are specific to the respondents and should not be generalised to all B.Ed. English trainee teachers.

Research Instrument

Data were collected using a researcher-developed questionnaire containing 25 statements arranged under four dimensions: (1) preparedness and awareness, (2) confidence and competence, (3) challenges and barriers, and (4) implementation practices. Responses were recorded on a five-point Likert scale: strongly agree, agree, neutral, disagree, and strongly disagree. Both positively and negatively worded statements were included. The instrument was developed with reference to literature on CLT, ICT integration, and TPACK. The available manuscript records that the items were reviewed for relevance to the study objectives; however, a formal reliability coefficient was not available for reporting.

Data Collection and Ethical Considerations

The questionnaire was administered online. Respondents were informed of the academic purpose of the study and participation was voluntary. The study record states that confidentiality was maintained and that personal identifiers were not included in the analysis or reporting. Forty valid responses were identified for the study. The authors should ensure that the final submission retains the original consent and data-handling records supporting these statements.

Data Analysis

The available manuscript and accompanying response document support a descriptive account of the four questionnaire dimensions. However, the response document supplied for this revision is a printed table in which a number of entries are truncated or visually merged. It therefore

does not permit reliable verification of every response or calculation of item-wise frequencies and percentages. Accordingly, this revised version does not report numerical percentages, composite scores, inferential tests, or claims of statistical significance. The findings are presented as a cautious descriptive synthesis of the study record. Before submission to a journal that requires quantitative item-level reporting, the authors should calculate frequencies and percentages from the original spreadsheet and insert the verified results.

Results

The results are organised according to the four dimensions used in the questionnaire. Because the supplied response record does not support reliable item-by-item counting, the findings below are reported qualitatively. They should not be interpreted as estimates of the prevalence of a view among all trainee teachers.

Preparedness and Awareness

The study record describes a generally positive orientation among the respondents towards the principles of T-CLT. The reported pattern suggests that trainees recognised the relevance of combining communicative language activities with digital resources. Familiarity with ICT-based teaching strategies and awareness of the potential contribution of digital tools were identified as features of the responses. These observations indicate perceived readiness at the level of awareness; they do not, by themselves, demonstrate that trainees can implement T-CLT consistently in varied classroom conditions.

Confidence and Digital Pedagogical Competence

The available account characterises trainees' confidence as developing rather than uniformly assured. Respondents were described as being familiar with multimedia resources,

including applications and videos that could support speaking and listening activities. The report also refers to trainees' perceived ability to plan digital communicative lessons and organise ICT-supported group work. At the same time, the need for further practical exposure was identified. This pattern suggests a distinction between recognising the value of technology and feeling fully prepared to manage it during classroom instruction.

Challenges and Barriers

The study record identifies contextual and practical constraints affecting the implementation of T-CLT. These include limited access to digital devices and functioning smart boards, time constraints during teaching practice, and unreliable internet connectivity. The report also notes the need for additional hands-on training and the difficulty of planning digital communicative activities for learners with different levels of language proficiency. These issues indicate that implementation depends not only on the trainee teacher's willingness but also on the resources, time, technical support, and classroom conditions available in the practice school.

Implementation Practices

The study account refers to the use of multimedia presentations, LCD projectors, digital role plays, simulations, storytelling activities, and language-learning applications. These examples suggest that trainees had encountered or attempted a range of technology-supported activities during their teaching practice. However, the available record does not provide verifiable item-level counts or enough detail to establish how frequently each activity was used, how many trainees used each tool, or how consistently the activities promoted learner-to-learner communication. The distinction between using technology to present information and using it to facilitate interaction remains important.

Summary of Findings

Overall, the descriptive account points to a positive orientation towards T-CLT, alongside a need to strengthen practical confidence and address school-level constraints. The reported challenges relate particularly to infrastructure, time, connectivity, training, and the management of mixed-proficiency classrooms. These findings are indicative of the experiences described in the study record and require confirmation through transparent item-level analysis of the original dataset.

Discussion

Positive Orientation and Developing Confidence

The reported positive orientation towards T-CLT is consistent with the view that teachers' attitudes are only one part of technology integration. Ertmer (1999) distinguishes external barriers from internal barriers associated with beliefs and assumptions. In the present study record, trainees appear to recognise the pedagogical relevance of combining ICT with communicative methods. At the same time, their confidence is described as developing, and further practical exposure is identified as necessary. This distinction is important: positive attitudes do not automatically translate into the ability to select appropriate tools, manage technical interruptions, and sustain meaningful communication in a real classroom.

Ertmer and Ottenbreit-Leftwich (2010) argue that knowledge, confidence, beliefs, and institutional culture interact in shaping teachers' technology use. For trainee teachers, confidence is likely to be influenced by opportunities to rehearse lessons, receive feedback, and experience reliable access to equipment. Teacher education programmes should therefore move beyond one-

time demonstrations of digital tools and provide repeated opportunities to design and conduct technology-supported communicative tasks.

From Technology Access to Pedagogical Alignment

The activities described in the study include both presentational resources, such as multimedia presentations and projectors, and potentially interactive tasks, such as digital role plays, simulations, and storytelling. This distinction matters because the educational value of technology depends on the communicative work learners are required to perform. Chapelle (2001) emphasises the importance of aligning technology-based tasks with language-learning processes, while TPACK highlights the need to connect the selected technology with pedagogical purpose and subject content (Mishra & Koehler, 2006).

The available data do not establish the relative frequency of presentational and interactive uses. It is therefore not possible to conclude that technology use in the sample was predominantly communicative. Future studies should examine not only which tools trainees use, but also the nature of learner participation, the opportunities for negotiation of meaning, and the feedback generated through each activity.

Institutional and Classroom Barriers

The reported constraints involving infrastructure, time, connectivity, and mixed learner proficiency are consistent with the distinction between first-order and second-order barriers proposed by Ertmer (1999). Limited equipment and unreliable internet access are conditions that individual trainees may have little power to change. Time pressure and diverse learner needs also require planning and institutional support. Similar practical issues have been discussed in language education research, including work on resource availability and teacher training (Xie & De Dios,

2025) and the design of learning activities for students with different backgrounds and needs (Fung et al., 2025).

These constraints suggest that responsibility for T-CLT implementation should not be placed solely on trainee teachers. Teacher education institutions and teaching-practice schools need to coordinate access to devices, technical assistance, suitable classroom time, and alternative plans for situations in which connectivity fails.

Digital Communication and Communicative Competence

The growth of digital communication raises questions about the competencies learners need in contemporary language use. Rodríguez-Piñero (2025) argues for recognising digital communication alongside oral and written communication, while Xie and De Dios (2025) highlight the importance of digital literacy and cultural exchange. From this perspective, T-CLT should not be understood simply as the addition of electronic equipment to a conventional lesson. It should involve tasks through which learners interpret, create, respond to, and evaluate meaning in digital environments. Such tasks also require attention to multimodal and critical literacy.

Implications for Teacher Education and Practice

1. Provide sustained, practice-oriented training in which trainees design, teach, and evaluate digital communicative lessons rather than merely observe demonstrations of applications or devices.
2. Integrate T-CLT systematically into English methodology courses, linking each digital tool to a specific communicative objective and language skill.

3. Use microteaching and simulation-based practice to help trainees rehearse digital role plays, collaborative writing, online discussion, digital storytelling, and peer-feedback activities.
4. Establish partnerships between teacher education institutions and practice schools to ensure access to functioning devices, stable connectivity, and technical support.
5. Prepare trainees to manage mixed-proficiency classrooms through differentiated tasks, flexible grouping, peer support, and accessible digital resources.
6. Encourage reflective lesson analysis so that trainees evaluate whether technology increased learner interaction and meaningful language use, rather than simply making a lesson more visually engaging.

Limitations and Directions for Further Research

The study has limitations that should be considered when interpreting its findings. First, the sample comprised 40 trainees selected through convenience sampling; the findings cannot be generalised to the wider population of B.Ed. English trainee teachers. Second, the data were self-reported and may reflect respondents' perceptions rather than independently observed classroom practice. Third, a formal reliability coefficient was not available in the study record. Fourth, the response PDF supplied for revision did not permit reliable verification of every individual response. Consequently, item-level percentages and statistical comparisons could not be reported in this version. Finally, the available record does not provide sufficient background information to examine whether responses varied by prior ICT experience, institutional context, or teaching-practice setting.

Further research should use a clearly documented sampling procedure and preserve the original response dataset in a format that permits transparent analysis. Researchers should report item-wise frequencies and percentages, explain the treatment of negatively worded items, and provide reliability evidence where appropriate. Classroom observations, interviews, and lesson-plan analysis could complement questionnaire data and clarify how trainees use digital tools to support communication. Larger studies across institutions and subject specialisations could examine contextual differences, while intervention studies could assess whether structured T-CLT training improves teaching practice and learners' communicative performance.

Conclusion

This study explored B.Ed. English trainee teachers' perceived preparedness and challenges in implementing technology-enhanced communicative language teaching during teaching practice. The available study account indicates a positive orientation towards integrating digital resources with communicative pedagogy, while also pointing to developing confidence and a need for further practical exposure. The challenges described include inadequate ICT facilities, limited instructional time, unstable internet connectivity, and the demands of teaching learners with differing levels of proficiency.

The findings underline that effective T-CLT requires more than access to technology or a favourable attitude towards its use. Trainees need opportunities to develop the pedagogical judgement required to select tools that promote interaction, feedback, and purposeful language use. Teacher education institutions and practice schools also need to provide appropriate infrastructure and support. The conclusions should be treated as descriptive and provisional until the original response spreadsheet is analysed and item-level results are verified.

References

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. Applied Linguistics, 1(1), 1–47. https://doi.org/10.1093/applin/I.1.1

Chapelle, C. A. (2001). Computer applications in second language acquisition: Foundations for teaching, testing and research. Cambridge University Press.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE.

Del Moral Pérez, M. E., Neira-Piñeiro, M. R., López-Bouzas, N., & Castañeda-Fernández, J. (2024). Competencia comunicativa oral del alumnado de Educación Infantil plasmada en sus narraciones orales elaboradas con una app [Oral communicative competence of early childhood education students embodied in their oral narrations elaborated with an app]. Revista Signos, 57(115), 426–447. https://doi.org/10.4151/S0718-0934202401150980

Dudeney, G., & Hockly, N. (2007). How to teach English with technology. Pearson Longman.

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. Educational Technology Research and Development, 47(4), 47–61. https://doi.org/10.1007/BF02299597

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. Journal of Research on Technology in Education, 42(3), 255–284. https://doi.org/10.1080/15391523.2010.10782551

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education (8th ed.). McGraw-Hill.

Fung, K.-Y., Fung, K.-C., Lui, T. L. R., Sin, K.-F., Lee, L.-H., Qu, H., & Song, S. (2025). Motivating students with different needs to learn Chinese in a mixed-background classroom by robot-assisted learning. IEEE Transactions on Learning Technologies, 18, 369–386. https://doi.org/10.1109/TLT.2025.3551256

Gorham, T., Majumdar, R., & Ogata, H. (2024). Learning analytics of peer feedback on communicative skills in an EFL course across different learning modalities. Studies in Educational Evaluation, 81, Article 101352. https://doi.org/10.1016/j.stueduc.2024.101352

Hymes, D. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.), Sociolinguistics: Selected readings (pp. 269–293). Penguin.

Likert, R. (1932). A technique for the measurement of attitudes. Archives of Psychology, 22(140), 1–55.

Littlewood, W. (1981). Communicative language teaching: An introduction. Cambridge University Press.

Ministry of Human Resource Development. (2020). National Education Policy 2020. Government of India. https://static.pib.gov.in/WriteReadData/userfiles/NEP_Final_English_0.pdf

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Quevedo-Webb, C., Hoyos Álvarez, C. E., & Barros García, M. J. (2025). Nuevas vías para fomentar la competencia comunicativa intercultural crítica: La realidad virtual [New ways to foster critical intercultural communicative competence: Virtual reality]. Porta Linguarum, (XV), 183–197. https://doi.org/10.30827/portalin.viXV.33552

Richards, J. C., & Rodgers, T. S. (2001). Approaches and methods in language teaching (2nd ed.). Cambridge University Press.

Rodríguez-Piñero, A. I. (2025). Ser competentes en lenguas extranjeras en la era digital [Being competent in foreign languages in the digital age]. RLA. Revista de Lingüística Teórica y Aplicada, 63(2), 113–139. https://doi.org/10.29393/RLA63-13CLAR10013

Savignon, S. J. (Ed.). (2002). Interpreting communicative language teaching: Contexts and concerns in teacher education. Yale University Press.

Tondeur, J., van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. Computers & Education, 59(1), 134–144. https://doi.org/10.1016/j.compedu.2011.10.009

UNESCO. (2018). UNESCO ICT competency framework for teachers (Version 3). https://unesdoc.unesco.org/ark:/48223/pf0000265721_eng

Warschauer, M., & Kern, R. (Eds.). (2000). Network-based language teaching: Concepts and practice. Cambridge University Press.

Xie, J., & De Dios, A. (2025). Multicultural integration and future pathways: An analysis of Chinese language education policies and practices in Philippine public secondary schools. Current Issues in Language Planning, 26(2), 139–168. https://doi.org/10.1080/14664208.2024.2376962