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DIGITAL INTEGRATION: ENHANCING L2 LANGUAGE SKILLS THROUGH CALL IN A CLT FRAMEWORK

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ABSTRACT

To increase L2 competency in both receptive and productive skills—this study investigates how Computer-Assisted Language Learning (CALL) applications may be improved through Communicative Language Teaching (CLT). Previous studies have tended to focus on specific skills or technology, ignoring a comprehensive perspective of CALL's influence within CLT. Recent research on CALL integration in CLT was reviewed comprehensively, with an emphasis on its pros and cons, and best practices. Included were studies conducted after 2000 on the use of digital tools for CLT language learning. Trends and gaps in the literature were found through data analysis. Conclusions show that there isn't much thorough research looking at how CALL affects each of the four language skills in CLT. But new developments in CALL technologies, such as intelligent conversation agents and gamified applications, hold out hope for raising L2 competency. For successful integration, it is emphasized that teacher preparation, interesting CALL activities that are in line with CLT principles, and frequent assessments of CALL's efficacy are essential. The present study highlights the necessity for more research to do a thorough analysis of the effects of CALL on all language abilities within CLT.

Keywords: Digital Integration, CALL, L2 Language Skills, Communicative Language Teaching (CLT).

1. INTRODUCTION

The environment in which people learn languages is dynamically changing. Technology is all around us, and as a result, the way we learn and use second languages (L2) is changing quickly. This change depends on how Computer-Assisted Language Learning (CALL) programs are included in the well-established Communicative Language Teaching (CLT) framework. This study explores how CALL might improve L2 proficiency. Since its establishment in the 1970s, CLT has emphasized communication as the main goal of language acquisition. Supporters such as Boss (2015) emphasizes how crucial it is to provide real-world learning settings where students actively engage in meaningful interactions using the target language. This strategy is in line with CALL's built-in advantages, which may give students a variety of interesting opportunities to practice communication.

CALL's capacity to provide accessibility to real language resources is one of its main advantages. Research by Bolton and Emery (2021), Alam (2023) and Hubbard and Levy (2016) shows how learners may be exposed to real-world material using digital tools and online platforms, such as news articles, podcasts, and social media interactions. By offering insights into the target culture, this exposure not only enhances students' understanding of how language is used in daily life but also promotes intercultural awareness (Hubbard & Levy, 2016). Moreover, CALL apps have the potential to provide customized learning. Research by

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Aggarwal (2023) and Mohammadkarimi (2024) demonstrates the promise of adaptive learning software, which can adjust difficulty and material to meet the needs of each learner. This tailored method accommodates a variety of learning preferences and lets students concentrate on areas that need work, which helps them advance more quickly.

CALL's capacity to promote interactive and collaborative learning settings is another important benefit. According to Ouariach et al. (2024), peer contact and real-time communication in the target language are encouraged through online forums, discussion boards, and virtual simulations. This cooperative method encourages a feeling of community among students and is in complete harmony with the CLT framework's emphasis on student participation (Ouariach et al., 2024).

Nonetheless, significant thought is needed to integrate CALL inside the CLT framework in an efficient manner. Research by Chapelle (2012), Hummel (2021) and Ng (2020) emphasizes how crucial teacher preparation and pedagogical designs are. It might be detrimental to simply introduce technology without a defined goal or appropriate instruction. Instructors must possess the abilities necessary to select CALL activities, incorporate them into lesson plans with ease, and offer sufficient assistance to students as they navigate the online learning environment (Chapelle, 2012). The benefits of CALL are examined in four language skills in this review paper, with a particular emphasis on speaking and listening comprehension (Becker & Nguyen, 2017). It goes over the importance of cultural knowledge in these abilities (Godwin-Jones, 2015) and provides a review of CLT in an educational setting enhanced by technology (Gorham et al., 2024).

Gap

There is an increasing focus on incorporating CALL into the CLT framework to improve L2 proficiency; however, there is still a dearth of thorough research that looks at how well CALL works to improve the four language skills (speaking, listening, reading, and writing) in the CLT setting. Studies that already exist frequently concentrate on particular abilities or technological advancements, ignoring a comprehensive perspective on how CALL might promote general language development by CLT principles.

Significance

By offering a thorough analysis of recent studies on the incorporation of CALL within the CLT framework and emphasizing its effects on L2 proficiency, this study seeks to close this education gap. This study will give educators, curriculum designers, and policymakers important insights on how to use CALL in enhancing language learning outcomes within a communicative and learner-centered strategy by synthesizing existing literature.

Research Goals

1. To examine recent studies on CALL's incorporation within the CLT framework.
2. To determine the strengths and limitations of the CALL methods and tools now in use for promoting L2 competency.
3. To provide suggestions on how to best use CALL in the CLT framework to improve language learning outcomes for teachers, curriculum designers, and policymakers.

Research Questions

1. What is the current status of the research regarding CALL's integration with the CLT framework?
2. What are the strengths and limitations of the current CALL methods and tools for promoting L2 proficiency?

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3. To improve language learning results, how can curriculum designers, teachers, and policymakers successfully incorporate CALL within the CLT framework?

2. COMMUNICATIVE LANGUAGE TEACHING

CLT is an approach rather than a concept (Savignon, 2002). In contrast to conventional theories, the CLT approach provides a wide variety of chances and possibilities that educators and pupils can occasionally utilize (Kennedy, 2002). The CLT approach is not just a Western invention; it's also a "global endeavor that has drawn inspiration and guidance from the interaction of effort in a variety of settings, both theoretical and practical" (Savignon, 2002). Many language instructors thought that the conventional theories of language acquisition could not meet the needs of pupils in the decades that followed the 1960s and 1970s (Seven, 2020). For instance, a lot of people argued that understanding social concepts and engaging in interpersonal and multicultural interactions was just as crucial as mastering vocabulary and grammar (Howatt & Widdowson, 2004). Furthermore, learning a language entails focusing on communication skills besides training and linguistic proficiency. Put another way, the communicative strategy is the basis of the communication procedure which is the instructional procedure (Chaika, 2020).

The CLT technique is currently more often a student-centered than a teacher-centered idea in Western nations (Fuad, 2023). In the learning environment, the task of the instructor is to facilitate student communication by assigning worthwhile assignments (Mohr & Mohr, 2017). Pupils are often permitted to engage in interpersonal communication, engage in peer assessments, and collaborate (Li et al., 2020; Zhan, 2021). Many CLT supporters, for instance regularly use problem-based instruction (San-Valero et al., 2019; Da Silva Cintra & Bittencourt, 2015), simulate tasks (Tweedie & Johnson, 2018), presentations between pairs and teams (Dimond-Bayir et al., 2017), technologically aided techniques, and visual-only video instructional methods (Dos Santos, 2016, 2017).

These strategies enable pupils, classmates, peers, and even instructors to integrate through the educational setting.

Teachers and students are continually encouraged by the CLT method to look for educational resources and instruments in their communities, contexts, and cultures. For instance, according to two recent investigations (Dos Santos, 2016, 2017), educators might use the communities of pupils as a source for visually-based educational materials. Relevant content from local communities, including city halls, educational facilities, mayors, commercial centers, and residential dorms for learners, is among the engaging and modern educational resources that let students converse with one another about their day-to-day lives.

In addition to using educational resources from pupils' groups and communities, the investigator (Dos Santos, 2016, 2017) argued that pupils are probably to exchange their assignments and suggestions with their peers in East Asian educational settings if instructors can set up social media-based forums and chatting platforms for pupils for practicing language skills (Han, 2017). Furthermore, to fully engage in the educational setting, pupils are asked to refrain from conversing in their mother tongue. Students were instructed to make every effort to utilize English as their first language during the activity. During the conversation, there were several linguistic mistakes. Following the activity, instructors would go over any potential expressions, syntax, etc.

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Undoubtedly, the benefits offered by a certain technology device interplay with the task's type and the respondent's digital expertise. In simpler terms, even when the work at hand is understood generally, students still need to be instructed on how to utilize the technology, as it may not always be clear-cut or evident how to "learn by doing." Not every assignment that works well in a traditional face-to-face context works well in a technology-mediated learning environment. Consequently, the discipline refers to the special capabilities and qualities that a particular computer program makes available to L2 learners to make use of as affordances (Tumolo & Finardi, 2022; Alobaid, 2021).

3. METHODOLOGY

To examine the effect of digital integration in improving L2 language proficiency using CALL within a CLT framework, this review study used a systematic literature review technique (Van Dinter et al., 2021). Employing databases like PubMed, Google Scholar, and specialized CALL-related publications, the search approach includes employing terms like "digital integration," "L2 language skills," "CALL," and "CLT framework." Included were studies that had been published after 2000 and that focused on using digital technologies to enhance language acquisition within a CLT framework. Studies that didn't fit these requirements weren't included. Information was taken from a few chosen research, including important conclusions, approaches, digital tools utilized, and how they affected L2 language proficiency. The retrieved data were combined to find gaps, trends, and patterns in the literature, especially about how well digital integration works to improve L2 language proficiency in a CLT framework. Ethics were taken into mind, making sure that all sources were correctly credited and that study protocols were followed.

4. CALL- L2 SPEAKING

By providing useful resources to improve L2 speaking abilities (Eragamreddy, 2023), digital technology enhances CLT. In this setting, two modes—tutorial CALL and computer-mediated communication (CMC)—play important roles (Teixeira, 2015). To help with lexical phrase recall and gap detection in L2 understanding, tutorial CALL facilitates the memory retention of L2 phonetic and morphological differences (Teixeira, 2015). Subvocalizing when studying unfamiliar phrases and words may make even basic tools like digital flashcards successful. While there is no feedback provided, several programs urge students to contrast their audio recordings with those of native speakers. Automatic speech recognition (ASR) is a feature of more sophisticated systems like "TeLL Me More or Dragon Naturally Speaking" that are included in Rosetta Stone activities. When utilized in certain linguistic sub-divisions or micro-worlds, such as learning words associated with particular semantic areas or rehearsing phrases employed in public settings, these ASR systems perform well (Kholis, 2021).

Pronunciation exercises with software like "Dragon or Online Dictation" aid learners in honing their pronunciation. These applications record students' speech in the target language (L2), giving them instant feedback on pronunciation mistakes and motivating them to reconsider and rephrase their sentences more understandably (Swain, 2000). More detailed feedback than Rosetta Stone is provided by PRAAT software. It facilitates the significant but sometimes disregarded connection between pronunciation instruction and L2 intonation structures (Chun, 2002; O'Brien, 2021; Gorjian et al., 2013). Through real-world speaking and human evaluation possibilities made possible by CMC platforms like VoiceThread, learners may engage with other L2 students or L1 speakers. VoiceThread promotes asynchronous audio interaction by enabling collaborative digital storytelling with written content, sound, and visuals (Teixeira, 2015). Asynchronous CMC is made possible by learning management

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systems (LMSs) that can publish videos, which encourages L2 speaking practice. By allowing students to submit their best videos, they can enhance their proficiency, language intricacy, and correctness (Guillén & Blake, 2017). Students can showcase their speaking development in videos that they create using digital video tools.

Arabic freshman pupils from UC Berkeley uploaded their audio-strengthened final assignments to YouTube, as per Blake and Sh'iri (2012). These presentations had basic web graphics accompanied by Arabic subtitles, narration, and background music. Synchronous CMC tools also referred to as videoconferencing, are essential for supporting L2 speaking practice when it comes to digital integration for improving L2 language skills through CALL in a CLT framework. Students may share text, photos, and video in real-time with these applications, which include "Adobe Connect, Big Blue Button, Blackboard Collaborate, Skype, Google Hangout, and Zoom" (O'Dowd, 2007; Lin et al., 2016). According to Blake (2011), they are now crucial for social media interactions, virtual language curricula, tandem learning studies, and telecollaboration assignments. It is important to carefully evaluate task design when integrating synchronous speaking activities using videoconferencing into the curriculum to balance the objectives of gaining L2 correctness, complexity, and fluency (Hampel, 2006). In comparison to standard educational environments, smaller-group videoconferencing—where a single teacher interacts with two or three pupils—can frequently offer a more intensive speaking experience (Blake, 2011). To ensure that students are comfortable with the vocabulary and grammar required for effective completion, the teacher should provide communicative assignments ahead of time. A few videoconference apps enable to recording of synchronous talks, which is helpful for self-assessment or getting feedback from peers and instructors. This helps with discourse transformations and fluency improvement (Blake, 2011). There isn't much study on how videoconferencing affects speaking headway, although the potential advantages for practicing speaking (Hulstijn, 2011). Hulstijn (2015) has proposed a paradigm for L2 assessment that makes a distinction between academic or advanced linguistic competency and fundamental linguistic proficiency. This model may help prospective CALL researchers gauge the advancement of L2 speaking.

According to Hulstijn (2015), this approach recognizes that children might possess a strong feeling of extended proficiency even if they are unable to acquire fundamental language skills like pragmatics, intonation, or pronunciation. The measurement of L2 speaking competency is made more difficult by the fact that current assessment procedures frequently blend traits from the two domains (Blake, 2016). It is significant that how videoconferences are conducted is different from in-person conversations since communication is mediated by a computer and screen (Ware, 2005; Ware & Kramsch, 2005; Kern, 2015). To prevent or comprehend intercultural misunderstandings that may occur when utilizing the computer medium, educators and students alike need to receive CMC training. According to the concepts of CLT, well-crafted tasks are necessary to facilitate effective and fulfilling virtual interactions via videoconferencing (Ware, 2005; Ware & Kramsch, 2005; Kern, 2015).

In the last several years, there have been interesting advancements in CALL programs that target L2 speaking within the context of the CLT framework. The emergence of intelligent conversation agents (ICAs) is one developing trend (Xiao et al., 2023). According to Xiao et al. (2023), these AI-powered virtual tutors can imitate in-person interactions and provide students with tailored feedback on grammar, pronunciation, and fluency. Furthermore, CALL systems that provide automatic pronunciation assessment and correction feedback have been developed as a result of advancements in voice recognition technology (Cámara-Arenas et al.,

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2023). This makes it possible to practice spoken language more closely and to develop it specifically.

Additionally, gamified CALL applications are becoming more and more widespread (Zhang, & Hasim, 2023) which adds an element of enjoyment and involvement to speaking practice. To encourage students to actively participate in simulated talks, these programs frequently include role-playing situations, interactive dialogues, and point-based systems (Zhang, & Hasim, 2023). This promotes a more dynamic learning environment and is in complete harmony with the CLT's emphasis on meaningful communication. To enhance the usefulness of CALL for speaking skills, however, studies by Novitasari and Fauziati (2024) and Wicaksono (2016) emphasize the continued requirement for teacher integration and scaffolding. Although CALL applications are useful resources, teachers are essential in helping students complete particular speaking assignments, giving feedback on general communication techniques, and creating a cooperative learning atmosphere (Novitasari & Fauziati, 2024; Koran, 2016).

5. CALL- L2 LISTENING

The proliferation of native-speaker-authored information on the internet has altered listening practices, as noted by Hubbard (2017). This abundance, especially on sites like YouTube, provides a wide range of real materials in a variety of genres, which teachers may compile into playlists for customized listening exercises (Blake, 2013). To avoid overloading L2 learners, teachers must offer language and cultural framing to fully utilize these resources. To overcome language and cultural challenges and contextualize real motion pictures, pre-listening exercises are essential. Instructors may add questions, comments, and checks to YouTube videos using CALL applications like "Thinglink" and "Zaption", which improves student understanding. More complex activity design is possible using Adobe Captivate, although the learning curve is higher (Hubbard, 2017).

When it comes to how students interact with these resources, instructors are crucial. They may help by explaining vocabulary, offering crucial cultural context, and creating exercises that reinforce what they've learned (Hubbard, 2017). The positive aspects of dual processing are highlighted by the fact that captioning blurs the distinction between reading and listening abilities and has been proven to enhance speaking performance after listening comprehension (Plass & Jones, 2005; Winke et al., 2010). To adjust speech pace, Cárdenas-Claros and Gruba (2014) recommend the use of captions, transcripts, input augmentation (such as fonts, sizes, and colors), electronic glossaries, linkages to dictionaries, and speed control. There hasn't been much study done on these choices, and the findings vary based on learner proficiency and other circumstances (Blake, 2016).

It will need more CALL listening study to determine the best circumstances for promoting listening skills. Instructors frequently find it difficult to adequately package real content, which forces students to drill vocabulary and learn background knowledge on subjects they are unfamiliar with (Blake, 2016). For students to take advantage of the ever-changing affordances provided by modern technology, they must get ongoing training because even younger learners may find these aspects to be confusing. One potential future technology breakthrough might be the capability to instantly link to dictionary glosses by clicking on words in videos that include captions. Although glossing is frequently used in CALL reading, there is not enough research on its use in listening activities (Blake, 2016; Jin & Deifell, 2013). There

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are additional chances for independent learning through content curation, which groups media according to subject and language proficiency (Hubbard, 2017). The Arclite Project at Brigham Young University and the Library of Foreign Language Film Clips at Berkeley Language Center are two examples. The only thing limiting students' possibilities for L2 listening practice using CALL is their instructors' capacity to create engaging instructional activities (Hubbard, 2017). In line with the encouragement of independent learning in language acquisition, learners require training to utilize these materials for successful study (Guillén, 2014; Schwienhorst, 2008).

There have been notable developments in the field of CALL for L2 listening skills in recent years. Interactive dictation tools enable learners to self-correct, improve accuracy, and offer immediate feedback on listening comprehension (Lei et al., 2023). Furthermore, the growth of multimedia CALL programs (Pujolă, 2002; Cardenas, 2023) integrates a variety of listening resources, such as podcasts and video lectures, in line with the CLT's emphasis on exposure to real language. To encourage active listening and understanding, these programs frequently include interactive activities like gap-filling games and vocabulary tests (Pujolă, 2002; Cardenas, 2023). Nonetheless, Li's research from 2023 emphasizes how crucial teacher-designed activities are to maximizing the benefits of CALL. To ensure compatibility with CLT principles and learner requirements, teachers might select CALL materials and tasks that specifically emphasize listening skills (Krivosheyeva et al., 2020; Karacan & Akoglu, 2021). Thus, CALL programs emphasize the value of task design and teacher direction to maximize learning outcomes, and they provide enough opportunity to improve L2 listening skills within a CLT framework.

6. CALL- L2 READING

Despite Web 2.0's multimedia improvements, text-based reading is still a crucial component of online activities in the context of digital integration of enhancing L2 language skills through CALL in a CLT Framework (Godwin-Jones, 2020). L2 reading proficiency has always been stressed in CALL research, which also emphasizes the benefit of textual persistence on computer displays, which gives students more time to comprehend innovative language patterns (Taylor, 2021). An important area of study for CALL's reading skills research has been the impact of dictionary searches or glossing in computer-supported or mobile-assisted situations. To improve vocabulary learning, Lingua.ly provides online glossing in different languages with definitions and audio (Karp, 2002). Later studies showed the benefits of integrated glosses (text and picture) for both vocabulary recognition and reading comprehension, while some studies indicated a preference for straightforward L1 definitions over different approaches (Chun, 2006; Yanguas, 2009).

According to Kern (2014, 2015), writing and reading on the Internet are altered by the fact that they are mediated by computers. Examples of Web 2.0 technologies that support collaborative reading and writing, or "reading," are Wikipedia and other sites where users may annotate or expand on published entries (Allen, 2003; Blyth, 2014). L2 learners can share the cognitive load of text interpretation through an interactive reading exercise called "digital social reading" (Blyth, 2014). Through reading and writing assignments on the Internet, Kern (2014, 2015) emphasizes the value of fostering critical thinking skills and a bilingual identity. She also highlights the necessity for educators to adjust to these new forms of digital literacy.

Enhancing engagement and encouraging active learning techniques are the priorities of the latest CALL developments for L2 reading skills within the CLT framework. Deeper

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engagement with reading is encouraged by tools such as annotated readers (Alahirsh, 2014; Yılmaz, 2014; Salameh, 2017; Ucaçelik & Şahan, 2023), which include integrated dictionaries, vocabulary activities, and comprehension assessments. Based on student success, adaptive reading activities (Pérez-Segura et al., 2022; Tseqaw et al., 2024) tailor difficulty and provide focused vocabulary and grammatical instruction. Furthermore, the emergence of gamified reading applications (Chen et al., 2020) that include leaderboards, badges, and points encourages students to actively engage in reading activities. To optimize comprehension and analytical abilities within the CLT framework, however, research by Sudrajat (2018) highlights the necessity of teacher-facilitated conversations and critical thinking exercises in addition to CALL programs.

7. CALL- L2 WRITING

Writing is important both online and offline in the context of digital integration of enhancing L2 language skills through CALL in a CLT Framework. Although longer works often need offline writing on computers, the Internet provides several avenues for sharing ideas through wikis, discussion forums, blogs, and shared documents (Oskoz & Elola, 2014; Zamiri & Esmaeili, 2024). Over the past ten years, there has been an increase in research on collaborative writing due to the emergence of social CALL and CMC which is essentially a type of writing, even if it has certain characteristics with spoken communication (Namkung & Kim, 2024). When compared to in-person encounters, L2 learners who use online software for writing produce more written work (Hubbard & Levy 2016). Research since then has concentrated on CMC as a means of telecollaborating with native speakers and negotiating meaning, emphasizing its function in the development of language and cultural competencies (Liu et al., 2023; Godwin-Jones, 2019; O'Dowd, 2007; Ware & Kramsch, 2005).

Either alone or in a group, productive academic writing should follow an iterative process that includes analysis, planning, development, execution, and assessment (Caws, 2012). Interaction and feedback at every writing step may be facilitated by CMC tools, resulting in writings that are well-structured, cohesive, and culturally appropriate (Oskoz & Elola, 2014; Tecedor, 2024). L2 learners can benefit greatly from CALL techniques and resources. Writing quality may be improved by using corpus resources and concordances to improve vocabulary and word usage (Yoon, 2008; Gaskell & Cobb, 2004; Ngo et al., 2024). Students can be involved in the design and rewriting of stories while including multimedia components in their work through the use of digital storytelling tools such as "FinalCut" or "iMovie" (Oskoz & Elola, 2014). These kinds of exercises foster critical thinking and intercultural awareness in addition to improving writing abilities (Wolsky, 2017). Web 2.0 tools also make it possible for students to work together on interactive writing projects like fanfiction groups, where they write creatively about popular media. In addition to improving language proficiency, these activities help fans feel like they belong to a worldwide community (Jenkins, 2006; Wolsky, 2017).

Writing assistants driven by artificial intelligence (AI) provide learners with personalized grammar and style recommendations in real time (Ucaçelik & Şahan, 2023; Al Mahmud, 2023). Furthermore, including peer review tools in interactive writing platforms facilitates targeted feedback exchange and promotes critical thinking and introspection within the context of the CLT framework (Wang & Devitt, 2022). Lin and Warschauer's (2016) research, however, emphasizes the continued necessity of instructor assistance in scaffolding writing assignments. The most recent developments in CALL programs under the CLT

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framework for L2 writing place a strong emphasis on scaffolding and tailored feedback. The potential of CALL tools, such as Quillbot, for L2 writing within a CLT framework, is highlighted by Nurmayanti & Suryadi (2023). The study highlights the necessity for student training and instructor direction to guarantee clarity and correct citation within the context of original writing projects, even though it implies the software can help with paraphrasing and perhaps minimize plagiarism. This is consistent with the CLT's emphasis on critical thinking abilities and appropriate language use. Ardhy et al. (2023) look into how Grammarly, a CALL tool for L2 writing, is used by students. Although the research finds Grammarly useful for enhancing syntax and style, it also points up drawbacks, such as reliance on the internet. This complements the CLT framework's focus on responsible technology usage since it advises educators to include Grammarly with exercises that develop students' capacity for autonomous thought and writing. A study by Soomro & Muheiodin (2024) shows how blogging may be used as a CALL program for L2 writing. According to their study, blogging, as opposed to more conventional approaches, can greatly enhance ESL students' writing abilities. This is consistent with the CLT framework's focus on genuine language usage and communication. Instructors are essential in helping students utilize CALL tools effectively, assisting them in evaluating feedback, and making sure writing assignments follow CLT guidelines (Lin & Warschauer, 2016).

Research Question 1

Research on CALL's integration with the CLT framework, as it stands today demonstrates that improving L2 language proficiency through digital integration is a top priority. Research has looked at several CALL-related topics, such as how it affects speaking, listening, reading, and writing abilities within the context of CLT. Studies have demonstrated the value of digital technologies for enhancing L2 competency, including gamified apps, CMC platforms, and instructional CALL. Furthermore, a developing trend in CALL research is the introduction of intelligent conversation agents and AI-powered virtual instructors, suggesting a sustained interest in fusing technology CLT.

Research Question 2

The capacity to offer a large choice of genuine resources, promote interactive learning experiences, and deliver tailored feedback are the strengths of contemporary CALL techniques and technologies for improving L2 competency. These resources can improve students' autonomy, motivation, and involvement in the classroom, which will improve their language learning results. There are, however, drawbacks, including the requirement for continual assistance and direction from teachers, the difficulty of incorporating CALL into the current curriculum, and the risk of becoming overly dependent on technology. Furthermore, different learner competency levels and cultural backgrounds may have different effects on the efficacy of particular CALL technologies.

Research Question 3

Several issues need to be taken into account by curriculum designers, educators, and policymakers to properly integrate CALL within the CLT framework. Prioritizing meaningful communication and genuine language usage, they should first make sure that CALL activities are in line with the tenets of communicative language education. Secondly, they must give educators the guidance and assistance they need to successfully incorporate technology into their lesson plans. Thirdly, they must give top priority to creating dynamic and captivating CALL exercises that accommodate a range of learning preferences and styles. Lastly, to

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maximize efficacy, they should regularly evaluate the influence of CALL on language learning outcomes and make any necessary modifications.

Recommendations

Subsequent investigations have to concentrate on carrying out extensive analyses that explore the full effects of CALL on the four language skills (speaking, listening, reading, and writing) inside the framework of CLT. To support general language development and competency, this study should go beyond focusing on specialized abilities or technical developments (Gleason & Ratner, 2022). Instead, it should investigate how many CALL activities and tools might be included in CLT (Rezalou & Yagiz, 2021). Furthermore, it is vital to examine the efficaciousness of incorporating CALL into CLT (Taridi et al., 2023) for students with varying proficiency levels and cultural backgrounds, taking into account the significance of teacher preparation and assistance in this integration procedure. It is also critical to take into account the long-term consequences of CALL use in CLT contexts (Bagheri, 2012). and how it might improve learners' communicative skills and general language ability. Subsequent studies ought to investigate inventive approaches for creating CALL tasks that conform to CLT tenets and include students in significant language use and communication. Lastly, assessing the viability and scalability of combining CALL and CLT in diverse learning environments will shed important light on the useful applications of this combination.

8. CONCLUSION

Several important conclusions may be drawn from the study on the incorporation of CALL into the CLT paradigm. Firstly, there is a dearth of thorough studies that look at how CALL affects speaking, listening, reading, and writing—the four language skills—all at once in a CLT context. Studies that already exist tend to focus on particular abilities or technical developments, ignoring a comprehensive viewpoint on how CALL might support the development of general language by CLT principles (Adem & Berkessa, 2022). Second, new research emphasizes how effective CALL strategies and resources—such as gamified applications, collaborative writing sites (Al Mahmud, 2023) and AI-driven virtual tutors—are in fostering L2 proficiency. These tools promote students' motivation, engagement, and sense of autonomy, which improves language learning results. Nonetheless, there are still issues to be resolved, including the dangers of over-relying on technology, the necessity for continual teacher assistance, and integration obstacles. Last but not least, suggestions for further study and application stress the significance of matching CALL exercises to CLT principles, giving instructors sufficient training and assistance, developing dynamic and interesting CALL activities, and routinely assessing the effect of CALL on language learning outcomes.

The CLT framework's integration of CALL has a lot of potential to improve L2 language proficiency. Even though previous studies have shown that CALL improves language learning outcomes, further research is needed, especially in the form of thorough evaluations that look at the program's overall efficacy at all language proficiency levels. To optimize the advantages of CALL in fostering language proficiency and communicative competence, educators, curriculum designers, and policymakers should take note of the gaps in existing research and put the suggested strategies into practice. Language learners may interact with real language resources, get tailored feedback, and take part in meaningful language usage through the digital integration of CALL within a CLT framework. As technology develops further, teachers must modify their methods to successfully use these cutting-edge resources. Teachers may develop dynamic and engaging language learning settings that support L2

learners' competency and fluency by embracing digital integration and implementing CALL into CLT.

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