



The Effectiveness of Online Collaborative Learning through Digital Platforms in Enhancing Students' Communication Skills

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ABSTRACT

This research investigates the effectiveness of online collaborative learning using digital platforms in enhancing students' communication skills, a core competency in 21st-century education. Communication skills are increasingly vital for academic success and professional readiness, making it essential to explore innovative pedagogical strategies that foster interaction in digital learning environments. Drawing on theories such as Vygotsky's social constructivism and collaborative learning theory, this study examines how structured online collaboration contributes to the development of students' ability to express ideas, negotiate meaning, and engage in constructive dialogue. The methodology employed a mixed-method approach, combining surveys, classroom observations, and interviews with students engaged in collaborative tasks via digital platforms. The results indicate that online collaborative learning significantly improves communication skills by promoting active participation, reflective practices, and peer-to-peer interaction. Furthermore, challenges such as unequal participation and technological barriers can be mitigated through scaffolding, role assignments, and clear communication guidelines. These findings align with previous studies while offering new insights into the role of reflective learning and instructional design in digital collaboration. The study contributes to both digital pedagogy and educational policy by highlighting the need for professional development programs for teachers, the integration of collaborative learning into curricula, and equitable access to digital resources. Ultimately, the research affirms that online collaborative learning is an effective pedagogical strategy not only for improving academic outcomes but also for equipping students with essential communication skills required in modern education and the global workforce.

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1. INTRODUCTION

Communication skills are among the most essential competencies required in the 21st century, as they enable individuals to exchange ideas, collaborate effectively, and participate meaningfully in academic,

professional, and social contexts. In education, strong communication skills are critical not only for academic success but also for preparing students to enter a workforce where teamwork, problem-solving, and digital literacy are increasingly demanded (Wrahatnolo, 2018). However, traditional classroom practices often place greater emphasis on content knowledge rather than on developing interactive and communicative abilities, resulting in students who may excel academically but struggle to convey ideas clearly and engage in collaborative discussions.

The rapid advancement of technology and the widespread adoption of digital platforms have transformed how teaching and learning are conducted. Online learning environments such as Google Classroom, Microsoft Teams, Zoom, and other collaborative platforms have created new opportunities for interaction beyond the physical classroom (Eraković & Topalov, 2021). These platforms provide students with various tools to engage in discussions, share resources, and collaborate on projects, thereby offering a fertile ground for the development of communication skills. The COVID-19 pandemic further accelerated the integration of digital platforms into education, highlighting their potential as a permanent complement or alternative to face-to-face learning.

Collaborative learning, grounded in social constructivist theory, emphasizes the importance of peer interaction in knowledge construction (Hakkarainen et al., 2013). When applied through digital platforms, collaborative learning encourages students to engage in dialogue, negotiate meaning, and co-construct knowledge. Such interactions are believed to enhance communication skills as students practice expressing their thoughts, listening actively, and responding appropriately to peers in both oral and written forms. Despite these potential benefits, challenges such as unequal participation, limited digital literacy, and technical barriers may hinder the effectiveness of online collaboration.

Collaborative learning is deeply rooted in educational theories that emphasize the role of social interaction in the process of knowledge construction. One of the most influential theoretical foundations is Vygotsky's social constructivism, which highlights the importance of social context and cultural tools in shaping learning. According to Vygotsky, learning does not occur in isolation but is mediated through interaction with more knowledgeable others, such as peers, teachers, or digital resources. His concept of the Zone of Proximal Development (ZPD) illustrates how learners can achieve higher levels of understanding and skill development when supported through collaboration (McLeod, 2012). In the context of online collaborative learning, digital platforms act as mediating tools that extend the ZPD, enabling students to co-construct knowledge, negotiate meaning, and refine their communication skills through structured interaction.

Another theoretical framework that underpins collaborative learning is the Collaborative Learning Theory itself, which posits that learning is a process of shared meaning-making. Unlike traditional models that treat learners as passive recipients of knowledge, this theory views learners as active participants who bring diverse perspectives, knowledge, and experiences to the group. Through dialogue, debate, and joint problem-solving, students collectively generate understanding that exceeds what they could achieve individually. This process fosters not only cognitive development but also essential communication competencies, as learners must articulate their thoughts, listen to peers, and build on one another's contributions.

Additionally, related theories such as constructivism and social interdependence theory further reinforce the principles of collaborative learning. Constructivism emphasizes that learners actively construct knowledge through experience, while social interdependence theory highlights the importance of positive interdependence, individual accountability, and promotive interaction in group settings (Johnson & Johnson, 2008). When applied in online environments, these theories suggest that effective collaboration requires carefully designed tasks, supportive structures, and technological tools that facilitate interaction and communication.

Theories related to collaborative learning converge on the idea that social interaction, shared responsibility, and active engagement are central to effective learning. Vygotsky's social constructivism provides a strong foundation for understanding how communication and collaboration drive cognitive growth, while collaborative learning theory and related perspectives explain how structured group processes enhance both knowledge acquisition and communication skills. Together, these theories

form a robust framework for examining the effectiveness of online collaborative learning in improving students' communication abilities.

Over the past decade researchers have paid growing attention to how collaborative activities mediated by digital platforms shape students' communicative competence (Huang, 2018). Several systematic reviews and meta-analyses show that OCL can foster communication and teamwork skills, but the gains are strongly conditional on instructional design and facilitation. For example, Oyarzun and Martin's systematic review (2023) synthesised studies on online learner collaboration and concluded that while many studies report improvements in communication and relationship-building, persistent barriers such as uneven participation, unclear roles, and technological constraints moderate those benefits.

Empirical work on online group projects in higher education has echoed that conditional picture. Large-scale reviews and studies (e.g., Donelan & Kear, 2023) find that online group work can develop employability-related communication skills when tasks are authentic, roles are explicit, and instructors provide active scaffolding; conversely, poorly structured group tasks often lead to coordination problems, social loafing, and uneven communicative practice. These studies emphasise that the mere use of a platform is insufficient pedagogical design (task authenticity, accountability, rubrics) and facilitation practices drive whether communication skills actually improve.

Cross-institutional and virtual exchange projects (which pair students from different countries or institutions) provide strong evidence that sustained, task-focused online collaboration improves interpersonal and professional communication. Studies of virtual exchange implementations report measurable gains in teamwork, perspective-taking, and both written and oral communicative behaviours when tasks require negotiation, joint problem-solving, and regular synchronous/asynchronous interaction. These projects also illustrate how intercultural contexts can amplify communication learning (through real interlocutors and authentic communicative demands).

Discipline- and context-specific research for instance in EFL/ESL education consistently documents that structured collaborative activities on platforms (e.g., discussion forums, shared documents, video-conferencing) support development of speaking, listening, and written interaction skills. Recent experimental and quasi-experimental studies (e.g., Alzubi, Nazim & Ahamad, 2024) show improvements in learners' communicative performance and social interaction when collaborative interventions are carefully scaffolded, use clearly defined roles, and combine synchronous with asynchronous modes to maximise participation. However, these studies also report access and digital-literacy issues that can limit equity and the extent of communicative practice.

A parallel thread of research examines the role of technology affordances and emerging tools (Parchoma, 2014). Reviews on mobile, AI-enhanced, and blended collaborative learning indicate promising possibilities: mobile and multimodal tools can increase opportunities for short, frequent communicative practice, while AI-facilitated scaffolds (e.g., automated feedback, role-assignment suggestions, intelligent prompting) appear to support more equitable participation and targeted communication practice. Early reviews of AI-powered collaborative learning (2024–2025) highlight both potential benefits (personalised scaffolding, analytics for instructors) and concerns (algorithmic bias, over-reliance on automation), pointing to an urgent need for design studies that evaluate communicative outcomes specifically.

Finally, the literature identifies important gaps that remain ripe for investigation (Müller-Bloch & Kranz, 2015). Longitudinal evidence linking OCL exposure to durable improvements in real-world oral and written communication is still limited; more quasi-experimental and longitudinal studies are needed to trace skill transfer beyond course tasks. Equity-focused research (how socioeconomic status, access, and digital literacy shape communicative opportunities) is growing but remains underdeveloped. And as AI and adaptive tools become widespread, empirical work must rigorously test whether automated scaffolds genuinely improve communicative competence rather than merely increasing task completion. These gaps point to concrete next steps for research and practical design in educational settings.

Given these considerations, it is important to investigate how online collaborative learning using digital platforms impacts students' communication skills (Singh et al., 2021). This research aims to examine the effectiveness of digital collaborative activities in fostering communication abilities, identify the specific aspects of communication most improved, and explore students' experiences in engaging with such learning approaches. By doing so, the study seeks to provide valuable insights for educators in designing effective online learning strategies that not only deliver knowledge but also nurture essential communication skills in the digital era.

2. RESEARCH METHOD

This study employs a quasi-experimental research design to investigate the effectiveness of online collaborative learning using digital platforms in improving students' communication skills (Männistö et al., 2019). The design was chosen because it enables the comparison of outcomes between groups exposed to collaborative digital learning activities and those taught using conventional methods, while still maintaining a degree of control over variables. Through this approach, the study seeks to determine whether the integration of online collaborative learning significantly enhances students' communication abilities.

The participants of the study consist of students enrolled in a higher education institution, specifically those in undergraduate programs where communication and teamwork are essential learning outcomes (Carter et al., 2016). A sample of approximately 60 students is selected through purposive sampling and then divided into two groups: the experimental group and the control group. The experimental group engages in structured online collaborative learning activities using digital platforms such as Google Classroom, Microsoft Teams, and Zoom, while the control group continues with traditional online learning methods that emphasize individual tasks.

The instruments used to collect data include a communication skills assessment rubric, pre-test and post-test questionnaires, and observation checklists (Noviana et al., 2019). The assessment rubric measures various aspects of communication, including clarity of expression, active listening, interaction, teamwork, and digital communication etiquette. Pre- and post-tests are administered to both groups to determine the level of improvement in communication skills over the course of the intervention. In addition, surveys and reflective journals are used to capture students' perceptions of the online collaborative learning experience.

The procedures of the study involve a six-week intervention in which the experimental group participates in online collaborative tasks such as group discussions, joint project reports, peer reviews, and synchronous video conferencing activities (Wiecha & Barrie, 2002). These tasks are designed to encourage active participation, role distribution, and continuous peer interaction. The control group, on the other hand, is assigned similar content but works individually without structured collaboration. Throughout the intervention, the researcher observes student participation and interaction patterns to provide supporting qualitative data.

For data analysis, both quantitative and qualitative methods are applied. Quantitative data from the pre- and post-tests are analyzed using statistical tests such as paired sample t-tests and ANCOVA to determine the significance of differences between the experimental and control groups (Saini & Abraham, 2019). Meanwhile, qualitative data from observations, surveys, and reflective journals are analyzed thematically to identify patterns in student engagement, challenges faced, and perceived benefits of collaborative learning. The combination of these methods ensures a comprehensive understanding of how online collaborative learning influences communication skills development.

In summary, the methodology integrates experimental comparison with mixed methods of data collection and analysis to provide both measurable outcomes and rich contextual insights. By adopting this approach, the research not only evaluates the effectiveness of online collaborative learning in enhancing communication skills but also captures the lived experiences of students navigating digital platforms as tools for interaction and collaboration.

3. RESULTS AND DISCUSSIONS

Result

The findings of this study reveal that online collaborative learning conducted through digital platforms has a significant positive impact on improving students' communication skills. Quantitative analysis of the pre-test and post-test results shows that the experimental group, which participated in structured online collaborative activities, demonstrated a marked improvement in their overall communication skills compared to the control group (Aghajani & Adloo, 2018). Using paired sample t-tests, the mean post-test scores of the experimental group were significantly higher, indicating that participation in collaborative tasks enhanced students' ability to articulate ideas clearly, listen actively, and respond constructively in both oral and written communication. In contrast, the control group, which relied on more traditional online learning methods, exhibited only marginal improvements.

Further analysis of specific communication components highlights notable progress in areas such as teamwork, clarity of expression, and digital communication etiquette. Students in the experimental group reported greater confidence in expressing opinions during online discussions and showed improved ability to negotiate meaning and build consensus during group tasks (Ware, 2004). Additionally, the use of collaborative tools like shared documents, discussion forums, and video conferencing fostered active participation and provided multiple opportunities for practicing communication in authentic contexts. These findings suggest that digital platforms not only facilitated collaboration but also created a supportive environment for developing communicative competence.

Qualitative data from surveys and reflective journals complement the statistical findings by providing deeper insights into students' experiences (Shekhar et al., 2019). Many participants in the experimental group expressed that the collaborative learning environment encouraged them to engage more actively with peers, reduced their anxiety about speaking in front of others, and improved their confidence in digital communication. Students also highlighted the value of peer feedback, noting that constructive comments from group members helped them refine their ideas and communication style. However, several challenges were identified, including occasional unequal participation among group members, time management issues, and technical difficulties such as unstable internet connections. Despite these limitations, most students perceived the overall experience as beneficial for their communication development.

In summary, the results of this study demonstrate that online collaborative learning using digital platforms is effective in enhancing students' communication skills. The combination of structured group tasks, interactive tools, and peer engagement contributed to significant improvements in both the quality and confidence of students' communication. These findings affirm the potential of digital collaborative approaches in fostering essential 21st-century skills and highlight the importance of thoughtful task design and facilitation in maximizing their effectiveness.

Online Collaborative Learning Influences Communication Skills

Online collaborative learning (OCL) offers valuable insights into the ways digital interaction can shape and strengthen students' communication skills. Unlike traditional teacher-centered approaches, OCL emphasizes dialogue, negotiation, and shared responsibility, creating a learning environment where communication is both the medium and the outcome of learning. Through structured collaborative tasks on digital platforms, students are not only required to share information but also to listen actively, respond appropriately, and co-construct knowledge with peers. This constant exchange fosters the development of essential communication competencies, including clarity of expression, teamwork, adaptability, and digital literacy (Blau et al., 2020).

One important insight is that OCL promotes authentic communication practice. By working together on projects, engaging in discussions, and giving peer feedback, students are exposed to real communicative situations that mirror professional and social contexts. These interactions require them to articulate ideas clearly, adjust language to different audiences, and resolve conflicts constructively. Over time, students become more confident in expressing themselves, both orally and in writing, while also improving their ability to listen empathetically and build on others' contributions.

Another key insight is the role of digital platforms as mediators of communication. Tools such as video conferencing, shared documents, discussion forums, and instant messaging expand the modes of communication available to students (Sun et al., 2018). This multimodality allows learners to practice a range of communicative skills from formal oral presentations to informal text-based exchanges while also cultivating digital etiquette and online collaboration norms. In doing so, OCL helps students adapt to the demands of modern communication, where digital fluency is as important as face-to-face interaction.

Moreover, OCL enhances collaborative problem-solving and negotiation skills, which are integral to effective communication. When students engage in joint tasks, they must clarify roles, delegate responsibilities, and reconcile differing perspectives. These processes require active dialogue, persuasive argumentation, and consensus-building all of which strengthen higher-order communication abilities. The ability to communicate within diverse groups also nurtures intercultural competence, as learners are often required to respect different viewpoints and adapt their communicative style accordingly.

However, insights from OCL also point to the importance of equitable participation and facilitation. While collaborative learning can enhance communication, challenges such as unequal contributions, technical barriers, and lack of clear task design may hinder its effectiveness. This suggests that instructors play a critical role in structuring activities, setting expectations, and ensuring all students have meaningful opportunities to communicate.

Insights from research and practice indicate that online collaborative learning positively influences communication skills by fostering authentic interaction, leveraging digital platforms for multimodal expression, and cultivating negotiation and problem-solving abilities (Sobko et al., 2020). At the same time, its success depends on intentional design and facilitation that promote inclusivity and active engagement. These insights affirm the potential of OCL as a powerful pedagogical approach to prepare students with the communication competencies needed in the 21st century.

Practical Implications for Teachers in Designing Digital Collaborative Tasks

One important implication is the need to design tasks that require interdependence. If students can complete a task individually without collaborating, communication opportunities will be limited. Therefore, tasks should be structured so that each member's contribution is essential to the group's success. For example, group projects, peer editing exercises, or problem-solving discussions should involve role assignments that ensure accountability while fostering dialogue. Such interdependence compels students to exchange ideas, negotiate meaning, and practice both oral and written communication in authentic contexts.

Another implication lies in the integration of multimodal communication opportunities. Digital platforms offer diverse tools, including discussion forums, shared documents, video conferencing, and chat features (Onyema et al., 2019). Teachers should design activities that require students to use these tools in complementary ways. For instance, synchronous video meetings may be used for brainstorming and oral communication practice, while asynchronous discussion boards allow for more reflective written responses. This combination not only strengthens different aspects of communication but also accommodates students with varying communication preferences and digital fluency.

Teachers must also consider the importance of scaffolding and facilitation. Simply placing students in online groups does not guarantee effective collaboration. Clear instructions, rubrics for communication quality, and guiding questions help structure interaction and maintain focus. In addition, teacher presence through timely feedback, monitoring participation, and addressing conflicts ensures that all students engage actively and constructively. Without such scaffolding, digital collaborative tasks risk devolving into unequal participation or superficial exchanges.

Equity and inclusivity represent another crucial implication (Ainscow, 2020). Teachers should design tasks that recognize differences in students' digital access, cultural backgrounds, and communication styles. Flexible deadlines, culturally sensitive topics, and training in digital communication etiquette can help create an inclusive environment where every student feels

comfortable contributing. By doing so, teachers not only improve communication outcomes but also prepare students to collaborate effectively in diverse real-world settings.

Finally, teachers should integrate reflection and feedback mechanisms into collaborative tasks. Opportunities for peer evaluation, self-reflection journals, or teacher feedback sessions allow students to become more aware of their strengths and weaknesses in communication. This reflective component deepens learning, as students begin to see communication not only as a skill for academic tasks but also as a lifelong competency that requires continuous improvement.

The practical implications for teachers designing digital collaborative tasks emphasize intentionality, multimodality, scaffolding, inclusivity, and reflection. When thoughtfully planned and facilitated, such tasks can transform online collaboration into a powerful tool for developing communication skills, preparing students to meet the demands of academic, professional, and social interaction in the 21st century.

Practical Strategies for Optimizing Online Collaboration to Foster Communication Skills

To maximize the potential of online collaborative learning in fostering students' communication skills, educators need to implement well-structured and intentional strategies (Roberts & Pruitt, 2008). One essential approach is designing tasks that require interdependence, where students must communicate, negotiate, and share ideas to achieve a common goal. Collaborative projects such as problem-based learning, case studies, or group presentations encourage dialogue and push learners to articulate their perspectives clearly. By engaging in authentic and meaningful activities, students are more likely to develop skills in expressing opinions, asking questions, and providing constructive feedback.

Another effective strategy is the use of diverse digital tools that facilitate real-time and asynchronous communication (Moallem, 2015). Platforms such as discussion forums, breakout rooms in video conferencing applications, and shared documents enable students to practice different modes of communication. Teachers should provide opportunities for both synchronous discussions, which promote immediate interaction, and asynchronous exchanges, which allow learners time to reflect and formulate thoughtful responses. This balance not only accommodates different learning styles but also strengthens students' ability to communicate in varied contexts.

In addition, scaffolding plays a vital role in optimizing online collaboration (Hsieh, 2017). Teachers can provide structured guidelines for group work, such as role assignments (e.g., facilitator, note-taker, presenter) to ensure equitable participation and accountability. Clear rubrics and communication protocols can help students stay focused on collaboration while also developing critical discourse skills. Furthermore, providing explicit training on digital communication etiquette such as active listening, respectful language, and clarity in written or spoken expression can enhance the quality of interaction and reduce misunderstandings.

Finally, reflective practices should be integrated into collaborative activities. Encouraging students to self-assess and peer-assess their communication performance allows them to become more aware of their strengths and areas for improvement. Reflection journals, feedback sessions, or recorded discussions that students can revisit provide valuable insights into how communication evolves throughout the learning process. Such practices not only promote metacognition but also empower learners to take ownership of their communicative growth.

In summary, the optimization of online collaboration for communication skill development depends on intentional task design, effective use of digital platforms, structured scaffolding, and reflective practices. By embedding these strategies into digital learning environments, teachers can create collaborative experiences that not only enhance academic outcomes but also equip students with the essential communication competencies needed in the 21st century.

Contributions to Educational Policy and Digital Pedagogy

The findings of this research make significant contributions to both educational policy and digital pedagogy by highlighting the central role of online collaborative learning in enhancing students' communication skills. From a policy perspective, the results reinforce the importance of embedding digital collaboration as a core component of national and institutional curricula. In an era where

communication competence is considered a vital 21st-century skill, policymakers need to ensure that educational frameworks explicitly promote interactive and collaborative digital practices rather than relying solely on traditional, individualistic learning approaches. Integrating guidelines for digital collaboration into policy documents would provide schools and universities with a clear direction for adopting and sustaining innovative learning models.

In terms of digital pedagogy, this research underlines the value of designing instructional practices that leverage technology to create interactive and student-centered learning experiences (Bakar, 2021). The evidence suggests that digital platforms, when effectively utilized, can facilitate meaningful communication, peer-to-peer engagement, and active participation in ways that mirror real-world professional collaboration. Teachers are encouraged to adopt pedagogical approaches that integrate communication-based tasks, scaffolded group activities, and reflective practices. This pedagogical shift not only supports the development of communication skills but also aligns with broader educational goals of critical thinking, collaboration, and problem-solving.

Furthermore, the study emphasizes the need for teacher training and professional development in digital pedagogy. Many educators still lack confidence in using collaborative technologies effectively, which can limit the potential benefits for students (Li et al., 2008). By incorporating digital pedagogy into teacher education programs, educational institutions can better prepare teachers to manage online group dynamics, design collaborative tasks, and guide students in developing effective communication strategies. This investment in capacity-building ultimately strengthens the overall quality of education.

Finally, this research contributes to the growing discourse on equity and access in digital learning environments. By advocating for policies that ensure all students have equal opportunities to participate in collaborative digital activities, it highlights the importance of addressing disparities in technology access and digital literacy. Equitable digital pedagogy not only fosters communication skills but also empowers learners from diverse backgrounds to engage meaningfully in the digital age.

Comparison of the Current Study with Previous Research

The results of the current study, which demonstrate the effectiveness of online collaborative learning in improving students' communication skills, are consistent with the findings of several previous studies. For instance, Chen and Caropreso (2020) highlighted that students engaged in structured online group discussions showed marked improvements in their ability to articulate ideas and respond constructively to peers. Similarly, Almahasees and Jaccopard (2021) found that collaborative digital platforms encouraged active participation, which in turn enhanced students' interpersonal communication and critical dialogue. The present study reinforces these conclusions by providing empirical evidence that communication skills can be significantly strengthened when students are immersed in purposeful digital collaboration.

At the same time, the current study extends the scope of earlier works by offering insights into the reflective aspects of communication development. While prior research often focused on observable improvements in discourse and interaction (e.g., Garrison & Vaughan, 2017), this study adds depth by showing how reflection and peer feedback in online settings contribute to students' awareness of their communicative strengths and weaknesses. This finding suggests that the integration of reflective practices within collaborative learning environments can provide a more holistic approach to communication skill development.

However, some differences between the current and previous studies are also notable. For example, while Tang and Hew (2019) reported challenges such as unequal participation and technological barriers that limited communication outcomes, the current research found that these issues could be mitigated through task structuring, role assignment, and teacher scaffolding. This indicates that although potential obstacles exist in online collaborative learning, effective pedagogical design can transform these challenges into opportunities for deeper communicative engagement.

Overall, the current study not only confirms the positive link between online collaboration and communication skills reported in previous research but also contributes new perspectives on reflective learning and the role of intentional instructional strategies. These findings enrich the

growing body of literature by demonstrating that communication skills are not only improved through interaction itself but also through structured, guided, and reflective digital learning experiences.

4. CONCLUSION

The research has shown that online collaborative learning, when supported by digital platforms, is an effective approach for improving students' communication skills. The study highlights that structured digital collaboration enables learners to actively exchange ideas, negotiate meaning, and engage in constructive dialogue, all of which are essential components of effective communication. By integrating task interdependence, scaffolding, and reflection, the findings demonstrate that students not only become more confident in expressing themselves but also develop greater awareness of the importance of clarity, respect, and responsiveness in communication. The results are consistent with previous studies that affirm the positive relationship between collaborative learning and communication skill development, while also contributing new insights into the role of reflective practices and intentional task design. Unlike earlier works that often emphasized challenges such as unequal participation or technical barriers, this study underscores that thoughtful pedagogical strategies can successfully address these issues and foster a more inclusive and meaningful collaborative experience. From a broader perspective, this research contributes to digital pedagogy and educational policy by emphasizing the need for teachers to adopt innovative approaches in designing collaborative tasks, as well as the importance of providing professional development to enhance educators' competence in facilitating digital collaboration. It also calls for policies that support equitable access to digital tools, ensuring that all students can benefit from the opportunities of collaborative learning. The study affirms that online collaborative learning is not only a tool for enhancing academic outcomes but also a powerful means of equipping students with the communication skills required in the 21st century. By thoughtfully integrating digital collaboration into teaching practices and curricula, educators and policymakers can create learning environments that prepare students to succeed in both academic and professional contexts.

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