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COMPARING THE EFFICIENCY OF HUMAN-HUMAN AND HUMAN-AI INTERACTION FOR RAISING ELF AWARENESS IN YOUNG LEARNERS' TELECOLLABORATION

COMPARAÇÃO DA EFICIÊNCIA DA INTERAÇÃO HUMANO-HUMANO E HUMANO-IA PARA AUMENTAR A CONSCIÊNCIA DE ELF NA TELECOLABORAÇÃO DE JOVENS ALUNOS

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ABSTRACT: This study compares the effectiveness of human-human and human-AI interactions in raising English as a Lingua Franca (ELF) awareness among young learners involved in intercultural telecollaboration. With AI's growing role in education, particularly in language learning, this research investigates how AI tools can complement traditional human interactions in promoting ELF awareness and intercultural communication skills. Two groups of students participated: one engaged in telecollaboration with human partners, and the other with AI-powered virtual companions. The aim was to assess how these interaction modalities influence students' understanding of ELF and their intercultural communicative competence (ICC). Using a mixed-methods approach, the study combines quantitative data (surveys) and qualitative data (interviews and interaction analysis). Findings show that while both human-human and human-AI interactions positively impact ELF awareness, human-human interactions provide more nuanced, context-sensitive learning experiences that foster deeper cultural insights and emotional engagement. In contrast, human-AI interactions offer consistent, personalized feedback, enabling greater practice opportunities and immediate language support. This comparative analysis emphasizes AI's potential in supporting language learning and ELF awareness but highlights the importance of human interaction in developing intercultural competence and emotional connections. The study concludes with recommendations for integrating both human-human and human-AI interactions in ELF-focused language education and teacher training, advocating for a blended approach that combines the strengths of both modalities to develop young learners' global communication skills and intercultural awareness.
Keywords: ELF awareness. Human-AI interaction. Telecollaboration. Intercultural competence. Language learning. Young learners. AI in education.

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RESUMO: Este estudo compara a eficácia das interações humano-humano e humano-IA na conscientização do inglês como língua franca (ELF) entre jovens alunos envolvidos em telecolaboração intercultural. Com o papel crescente da IA na educação, particularmente no aprendizado de idiomas, esta pesquisa investiga como as ferramentas de IA podem complementar as interações humanas tradicionais na promoção da conscientização do ELF e das habilidades de comunicação intercultural. Dois grupos de alunos participaram: um envolvido em telecolaboração com parceiros humanos e o outro com companheiros virtuais com tecnologia de IA. O objetivo era avaliar como essas modalidades de interação influenciam a compreensão dos alunos sobre o ELF e sua competência comunicativa intercultural (ICC). Usando uma abordagem de métodos mistos, o estudo combina dados quantitativos (pesquisas) e dados qualitativos (entrevistas e análise de interação). As descobertas mostram que, embora as interações humano-humano e humano-IA tenham impacto positivo na conscientização do ELF, as interações humano-humano fornecem experiências de aprendizagem mais diferenciadas e sensíveis ao contexto que promovem percepções culturais mais profundas e envolvimento emocional. Em contraste, as interações humano-IA oferecem feedback consistente e personalizado, permitindo maiores oportunidades de prática e suporte imediato ao idioma. Esta análise comparativa enfatiza o potencial da IA no suporte ao aprendizado de idiomas e à conscientização do ELF, mas destaca a importância da interação humana no desenvolvimento de competência intercultural e conexões emocionais. O estudo conclui com recomendações para integrar interações humano-humano e humano-IA na educação de idiomas focada no ELF e no treinamento de professores, defendendo uma abordagem combinada que combine os pontos fortes de ambas as modalidades para aprimorar as habilidades de comunicação global e a conscientização intercultural dos jovens aprendizes.
Palavras-chave: Conscientização do ELF. Interação humano-IA. Telecolaboração. Competência intercultural. Aprendizado de idiomas. Jovens aprendizes. IA na educação.

INTRODUCTION

The increasing role of English as a global lingua franca (ELF) in recent decades has brought about notable changes in its phonological, lexical, and grammatical features. ELF reflects the "fluid, flexible, contingent, and often non-native-influenced" nature of language use in a globalized world (Jenkins et al., 2011, p. 284), and its integration into English Language Teaching (ELT) practices requires a paradigm shift (Jenkins, 2006; Seidlhofer, 2011; Cogo; Dewey, 2012; Sifakis; Sougari, 2010; Vettorel; Lopriore, 2013).

Scholars (e.g., Graddol, 2006; Pennycook, 2009; Tsantila *et al.*, 2016; Sifakis & Bayyurt, 2017; Grazzi, 2018; Sifakis *et al.,* 2018) have increasingly emphasized the need to adapt language teaching methods to align with the evolving sociolinguistic realities of the 21st century. Rose *et al.* list key proposals for change in ELT, among which “increasing ELF exposure”, “raising awareness of ELF strategies” and “emphasizing respect for

diverse culture and identity" are mentioned in order to better equip students for effective communication in real-world contexts (Rose *et al.*, 2021, p. 159).

Researchers in the ELF field (Guth; Helm, 2010; O'Dowd, 2012; Grazzi, 2013, 2015, 2017; Kohn, 2016) suggest that ELF awareness can be developed through innovative intercultural activities, such as telecollaboration, where learners from diverse cultural backgrounds collaborate online. These ELF-based activities not only promote ELF awareness but also foster intercultural communicative competence (Di Sarno Garcia, 2023).

However, intercultural telecollaboration projects pose several significant challenges for educators. These include complex organizational demands, considerable time investment, and a degree of unpredictability, particularly due to their reliance on partner institutions, which may vary in commitment and, in some cases, withdraw from the project before its completion. These critical issues prompt reflection on the potential application of recent advancements in generative AI within the field of education, outlined by scholars, such as Lahby *et al.* (2024) and Pratschke (2024), in order to create an AI-driven alternative to real telecollaboration projects, preserving their benefits, while mitigating associated drawbacks.

Existing literature has already demonstrated promising results regarding the use of AI in ELT (Creely, 2024, Crompton *et al.*, 2024; Wei, 2023). Recently, a study by Lee *et al.* (2025), which investigated the potential of English as a lingua franca (ELF) interactions with AI-chatbots in raising ELF – awareness, revealed that AI-chatbot's communicative function may resemble ELF communication when it replicates the speech patterns of a specific English speaker using advanced Natural Language Processing (NLP) trained on extensive language data, particularly when the model speaker and human interlocutor come from different linguistic and cultural backgrounds, thus mirroring the intercultural dynamics of ELF interactions. They also emphasize that AI-chatbots support task-based, goal-oriented language learning by prompting the development of meaning-negotiation strategies in L2 learners, paralleling the pragmatic approaches used by ELF-speakers to achieve mutual understanding. Moreover, they draw a comparison between the low-stress interaction experienced with AI and ELF communication, noting that speakers tend to feel more comfortable than when engaging with native speakers (*ibid.*). However, this

study discusses Global English awareness development among pre-service teachers, and the impact of AI-supported language tools on young learners remains underexplored.

To address this gap, the current study aimed to assess the effects of telecollaboration and AI-assisted language learning approaches on young learners, i.e., a group at a unique stage of linguistic, cognitive, and emotional development. The study posed the following research question: What are the differences and similarities between the interactions of students from diverse linguacultural backgrounds and young learners' interactions with AI tutors in raising ELF awareness and fostering intercultural communicative competence?

This empirical study involved two groups of Italian students: one collaborating with human partners from Kyrgyzstan via telecommunication and the other interacting with AI-powered virtual companions. The Italian and Kyrgyz pupils, aged 10-11, were in Grade 6 (the final year of elementary school in Kyrgyzstan and the first year of middle school in Italy). The first group comprised sixteen Italian students from a bilingual Italian-English school in Rome (St. Philip School), who collaborated on *PBworks* platform with fourteen Kyrgyz students from Bishkek (United World International School). The project also included the active participation of one Italian middle-school teacher and one Kyrgyz primary school teacher. The second group consisted of sixteen Italian students (aged 10-11) who interacted with AI-powered bots on the AI-mediated language learning platform *SchoolAI*.

The primary goal of the study was to assess how these different forms of interaction influenced students' comprehension and use of ELF, as well as their intercultural communicative competence (ICC). Students completed pre- and post-project questionnaires, which gathered three types of data: factual (about participants), behavioral (regarding their past use of English), and attitudinal (their views on the global use of English) (Dörnyei, 2010). Following Dörnyei's guidelines for young learners, the survey primarily consisted of multiple-choice questions, with a few open-ended questions to encourage reflection on global English use and communication strategies.

The project unfolded in three phases: the first phase (pre-treatment) explored students' experiences with ELF and their understanding of concepts such as normativity, appropriateness, comprehensibility, and ownership of English. The second phase (treatment) included a project conducted in two stages - introductory session in which

participants learned about each other's cultures and collaboration session in which they had to create a song about intercultural friendship. The third phase (post-treatment) included a post-survey and a focus group, which provided qualitative feedback on the students' experiences with intercultural telecollaboration. Data from the pre-survey, post-survey, and focus group were analyzed separately by each teacher for privacy reasons, and this article presents conclusions based on feedback from the Italian participants.

The study concludes by advocating for the integration of both human-human and human-AI interactions in ELF-focused language education and teacher training. It supports a blended approach that combines the strengths of both methods to enhance young learners' ELF awareness and intercultural communicative competence.

1 LITERATURE REVIEW

1.1 THEORETICAL FRAMEWORK

1.1.1 Vygotsky's Socio-cultural Theory

This study is grounded in Vygotsky's contributions to social constructivist learning theories, which emphasize the importance of social interaction and collaborative learning in cognitive development (Vygotsky, 1978, 1986, 1998, 2004). In this framework, less proficient learners engage in activities with more skilled individuals, such as teachers, peers, or, in contemporary contexts, AI programs. Such expert peers provide cognitive scaffolding to help learners expand their knowledge.

A central concept in social constructivism is the Zone of Proximal Development (ZPD), which distinguishes between a learner's current abilities and their potential capabilities with external support. The most widely referenced definition of ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Vygotsky further explicates that

> the actual developmental level characterizes mental development retrospectively, while the ZPD characterizes mental development prospectively… the ZPD permits us to delineate the child's immediate future and his dynamic developmental state, allowing not only for what

already has been achieved developmentally but also for what is in the course of maturing (*ibid*., p. 86-87).

As Lantolf and Thorne state, the ZPD serves as a valuable framework for educators in creating optimal learning experiences (Lantolf and Thorne, 2006, p. 267).

In this study, both groups engage in interactive language learning activities aligned with Vygotsky's approach (Swain *et al.*, 2015). The first group collaborates with peers, supporting each other within their ZPDs, while the second group interacts with an AI-powered tool, which serves as a collaborative learning partner. These interactions enable learners to regulate their learning and progress within their ZPD.

The study also incorporates modern theories on AI and computer-assisted learning (see section 1.2), recognizing the significant role of technology in language instruction. AI provides an added dimension to collaborative learning (Zheng *et al.*, 2021), enabling learners to interact with AI tools that support their progression within their ZPD. This mirrors Vygotsky's principles of mediated learning (Vygotsky, 1978), underscoring the value of technology as a collaborative partner in the learning process.

Additionally, the effectiveness of AI-based educational tools depends on collaborative abilities—skills that help learners engage with AI systems, instructors, and peers to improve their outcomes (Chen *et al.*, 2022). These abilities include strategies for effective interaction in AI-supported environments and are crucial for meaningful engagement in AI-assisted language learning. Learners who can leverage AI tools effectively are more likely to benefit from feedback and co-construct knowledge (Hsu *et al.*, 2023). By integrating Vygotsky's foundational ideas with modern AI theories, this study explores how digital technology can improve language learning, offering insights into how AI can serve as a collaborative tool for young learners.

1.1.2 English as a Lingua Franca (ELF)

This research draws on current studies in the field of English as a Lingua Franca (ELF). The emergence of ELF reflects the shift from English being primarily a native language or a tool for communication between native and non-native speakers, to its widespread use as a common medium of communication among non-native speakers (NNESs) from diverse cultural backgrounds (Graddol, 2006). ELF is commonly defined as

the "use of English among speakers of different first languages (L1), for whom English is the communicative medium of choice" (Seidlhofer, 2011, p. 7). Jenkins *et al.* (2011) highlight that the globalization of English has made it more fluid and flexible, shaped by non-native speakers to meet local needs. Schneider (2010) refers to English as a "glocal" language, blending global and local characteristics that reflect the diverse identities of its users. This view underscores the idea that ELF can facilitate communication without compromising the cultural identity of NNESs.

The transcultural nature of ELF has become an important focus of study. With the majority of English speakers now being non-native (Ethnologue, 2022), language use is seen as a dynamic system, where cultural and linguistic identities are fluid and negotiated in real-time communication (Lopriore; Grazzi, 2016). This challenges traditional views of language and culture, advocating for a perspective that embraces multiple cultural identities, rather than associating language with a single national identity (Baker, 2018, p. 14).

Jenkins (2015) further expands on ELF, describing it as a "multilingua franca," where English serves as a contact language alongside other languages in multicultural contexts. This concept of ELF as transcultural and translingual reflects the diverse linguistic resources that learners draw upon in global communication (García; Wei, 2014). Scholars like Baker and Sangiamchit (2019) argue that ELF should not be viewed as a monolithic variety, but as a dynamic practice that evolves with users' multilingual and multicultural backgrounds.

The rise of ELF has significant implications for English Language Teaching (ELT). Traditional English language teaching and assessment methods, which prioritize native-speaker norms and focus on accuracy, native-like pronunciation and grammatical correctness, are increasingly questioned, as ELF research shows that effective communication in English does not require adherence to standardized forms, provided mutual understanding is achieved (Cogo; Dewey, 2012; Jenkins; Leung, 2014). As a result, there is a growing need to move beyond native-speaker norms and adopt a more flexible, context-dependent approach to language teaching and assessment in ELT (Llurda, 2009; Dewey, 2012; Holliday, 2005; Kohn 2015).

According to Grazzi (2020), in majority of schools English is still taught as a foreign language according to a structured syllabus, while in the real world ever younger students

are gaining access to internet and becoming exposed to English input in extra-scholastic context (video games, YouTube videos, fan groups etc). Grazzi suggests that there is a direct relationship between the process of teaching/learning in a formal environment, extra-scholastic sources of English input and the emergence of ELF as a medium of communication in real intercultural communicative events. The process of their interaction has been defined "the convergence of EFL and ELF in the speaker/learner's performance." (Grazzi, 2013, p. 67 in Grazzi, 2020). In other words, EFL-learners turn into ELF-users once they step outside the scholastic context into real communicative situations. The convergence of English as a Foreign Language (EFL) and ELF in real-world communication emphasizes the importance of integrating ELF awareness into ELT (Sifakis, 2017; Sifakis; Bayyurt, 2018; Sifakis *et al.*, 2018, Vettorel, 2018, Seidlhofer, 2011).

The assumption of convergence between English as a foreign language (EFL) and English as a lingua franca (ELF) in second language education, by means of the learner's performance, is based on the critical analysis of the Interlanguage hypothesis (Selinker, 1972) that has been holding a significant place in second-language acquisition and ELT for decades. The Interlanguage Hypothesis (Selinker, 1972), which views language learning as a progression from L1 to L2, has been challenged by the notion that ELF learning involves constructing a personal, culturally informed version of English (Kohn, 2011). Vygotsky's sociocultural theory, as discussed earlier, further supports this by highlighting the role of social interaction and peer feedback in language development (Lantolf; Thorne, 2006). Application of Vygotsky's sociocultural theory to ELF naturally leads to the importance of intercultural communicative competence (ICC) in effective language learning, which will be explored in the next section.

1.1.3 Intercultural Communicative Competence (ICC)

Intercultural communicative competence (ICC) formalized by Byram's (1997), model emphasizing attitudes, knowledge, and skills for effective communication across cultures, has been the most influential in language teaching and has informed many of the later models. However, more recent research has reconceptualized ICC in order to reflect the realities of ELF that provides a more complex view of communication. In ELF contexts, where English is used among speakers of different linguistic and cultural backgrounds,

communication often involves transcultural negotiation – the dynamic, situated co-construction of meaning across cultural boundaries (Baker, 2015; Ishikawa, 2020).

Baker (2015, 2018, 2022) argues that ICC must evolve into a broader framework of intercultural and transcultural competence, which moves beyond static or essentialist notions of national culture to a model that accounts for fluid, emergent nature of intercultural communication in globalized ELF-mediated context. He further states that "in intercultural and transcultural approaches communication includes more than just linguistic forms. Pragmatics, communication strategies, multimodality, linguistic and intercultural awareness are all key" (Baker, 2020, p. 34).

Central to Baker's approach is the understanding that a culture is not fixed or inherited but constructed through interaction and that language classrooms should encourage learners' critical engagement with cultural diversity rather than simply teach facts about cultures. This view aligns closely with Vygotsky's sociocultural theory, which emphasizes the centrality of social interaction and cultural mediation in cognitive and communicative development.

From this perspective, ELF-communication becomes a pedagogical space for developing intercultural and transcultural awareness – a capacity to be open, reflexive and able to navigate fluid communicative practices across cultural borders. Baker (2022) also emphasizes the recognition of power dynamics in communication as essential elements of language education aiming to prepare learners for real-world intercultural encounters. The notion of intercultural awareness (ICA) he advocates for, incorporates both ICC and critical perspectives on communicative and intercultural communicative competence. He defines ICA as

> a conscious understanding of the role culturally based forms, practices and frames of reference can have in intercultural communication, and an ability to put these conceptions into practice in a flexible and context specific manner in communication' (Baker, 2015, p.163).

Subsequently, building on Jenkins' (2015) notion of English as a multilingua franca (EMF), which situates ELF within broader multilingual practices, Ishikawa (2020; 2021) introduced the concept of EMF awareness, using "awareness" in a broad sense as an alternative to "competence".

According to Baker and Ishikawa (2021)

> EMF awareness does not only aim to raise students' awareness (in a narrow sense) of the roles and effects of language and culture in communication and nurture confidence as English users. It also aims to enable students to connect this conscious understanding to their own transcultural and transmodal communication by appropriating English and multilingual resources in a flexible, situationally appropriate manner (*ibid*, p. 255)

Like ICC, EMF awareness is predominantly developed in response to educational needs, and there is a focus on 'communicative processes rather than linguistic or other products' (*ibid*, p. 256). In sum, these critical approaches to communicative and intercultural communicative competence, such as EMF awareness, adopt fluid perspectives on the connections between linguistic resources and cultural practices and references and so align well with transcultural communication.

Although Byram's ICC model is not able to account for everything observed from actual instances of intercultural and transcultural communication, it has a major strength - its educational focus. Moreover, it has been proven to be a very important and useful model in language education contexts. Additionally, despite not being based on empirical data, many of the elements of ICC have been observed in research into intercultural interactions (e.g. Baker, 2011). Therefore, ICC will be used in this study, dealing with language teaching.

Evaluating ICC in young learners necessitates special attention to their cognitive abilities and language skills. At this developmental stage, children may not possess advanced literacy or abstract thinking skills, so assessments should include simple, engaging tasks that measure their understanding of cultural differences, social skills, and attitudes toward other cultures. Such assessments should be interactive, using visuals, age-appropriate language, and possibly role-playing to effectively evaluate ICC (Byram *et al.*, 2002).

1.2 TELECOLLABORATION AND ARTIFICIAL INTELLIGENCE

Telecollaboration, where students from diverse linguistic and cultural backgrounds collaborate online, provides an important opportunity to raise English as a Lingua Franca (ELF) awareness and intercultural competence (O'Dowd, 2012). However, as described in the introduction, intercultural telecollaboration projects present several significant challenges for educators. These challenges involve a high level of uncertainty - given the

dependence on partner institutions, whose engagement may fluctuate and compromise the success of the entire project, intricate organizational requirements and significant time commitment on the part of the teacher.

These critical aspects prompt reflection on the possibilities to apply the recent advancements in generative AI within the field of education outlined by some scholars (Lahby M. *et al.*, 2024; Pratschke M., 2024) in order to simulate intercultural telecollaboration projects. Such attempts are in line with the frameworks like Education 4.0 (World Economic Forum, 2024) that emphasize integrating AI to equip students with essential skills for the future while addressing potential risks. However, these frameworks lack clear guidelines for integration of AI into ELT, which might be elaborated based on the empirical research and successful projects.

Recent studies indicate how AI can improve language teaching and learning, including developments like conversational AI for real-time practice and AI-enabled content creation, personalized feedback and scalable support (Creely, 2024; Crompton *et al.*, 2024; Wei, 2023). Yet, to date, AI has been associated with its tendency to standardize language expression and limit cultural narratives, as well as concerns about over-reliance on technology, which may inhibit creativity and critical thinking. As Creely (2024) notes, "language's richness lies in its cultural depth and human essence—attributes that AI, despite its prowess in syntax and semantics, struggles to fully encapsulate" (Creely, 2024, p.9).

Nonetheless, scholars like Lee *et al.* (2025) have demonstrated that AI- tools also present new opportunities for enhancing Global Englishes awareness, including ELF-awareness, in their study with pre-service teachers. The researchers contend that

> AI chatbot's communicative function might align with ELF communication when it mirrors the speech of a specific English speaker and interacts with a human interlocutor (Lee; Jeon, 2023; Rose; Galloway, 2019). To achieve this, advanced NLP technology is required to clone and replicate an individual's speech based on extensive language performance data from that person (Zhang; Lin, 2022). When the model speaker for an AI chatbot originates from a linguistic and cultural background different from the human interlocutor, their exchange may parallel ELF communication between speakers from diverse lingua-cultural backgrounds (Jenkins, 2015; Seidlhofer, 2011) (*ibid*, p. 55).

Additionally, they highlight that

> AI chatbots promote task-based learning, enabling L2 learners to enhance their communication skills through meaning negotiation strategies. (Kim *et al.*, 2022). This AI chatbot function in goal-oriented language learning is akin to ELF speakers' use of pragmatic strategies in communication situations to achieve mutual understanding (Sung, 2020) (*ibid*, p. 55).

Lee *et al.* further compare the anxiety-free interaction with AI to ELF-communication where speakers often feel more at ease than when communicating with native-speakers (*ibid*). Although this study discusses Global English awareness development among pre-service teachers, it lays the groundwork for conducting similar research with learners.

Despite the promise of AI in language learning, research on its role in enhancing ELF awareness is still limited. Comparisons with human-human interactions—which involve emotional engagement, cultural sensitivities, and the extent to which recent AI versions can replicate these elements—remain underexplored. Thus, it is crucial to understand how AI can complement traditional methods in promoting ELF awareness as educational technologies advance. A recently published study by Lee et al. (2025) paved the way for this line of inquiry, stating that "although Global Englishes (GE) research continues to grow in English language teaching (ELT), the role of technology in enhancing GE awareness remains underexplored" (*ibid.*, p. 49). Their study sought to address this gap by investigating the potential of ELF interactions with AI chatbots in raising GE awareness. Building on their approach, the present study aims to apply similar methods to younger learners.

This investigation is also informed by recent developments in "ELF-aware pedagogy," introduced by scholars such as Nicos Sifakis. While ELF-aware pedagogy does not constitute a distinct methodological system, it "adopts a perspective that departs from treating English as a foreign language and focuses on and builds upon what learners already do with English" (Sifakis, 2017, p. 16). An example of this approach is illustrated in the ENRICH Project, funded by Erasmus+, whose Unit 2 focuses on defining the concept (Section 2.1) and the content (Section 2.2) of ELF-aware teaching. Although ELF awareness does not prescribe a new teaching methodology, it is intended to be integrated into existing ELT pedagogies.

The integration of AI tools in language learning, particularly in enhancing ELF awareness and intercultural competence, serves as the foundation for the present study, which explores how these interactions compare to traditional human-human

communication. The following section outlines the methodology employed to investigate the effectiveness of these different interaction modes in raising pupil's awareness of the changing scenario of contemporary English on a global scale and, what is more important, in equipping them to cope with it.

2 THE STUDY

2.1 EDUCATIONAL CONTEXT

The study was conducted at St. Philip School of Rome, which is a bilingual (English-Italian) private school, which offers students a stimulating learning environment. As a bilingual private school, it usually attracts students from families with a medium-high socioeconomic level. The parents of the students tend to have a strong interest in quality education, which promotes a global and multilingual approach, thus preparing them for a future in international contexts. Bilingual teaching allows students to develop advanced language skills throughout their journey, from preschool to lower secondary school. Moreover, the excellence of the school's language curriculum is demonstrated by the achievement of the "Cambridge Institute" qualification.

The choice of school was motivated by the fact that St. Philip School adopts an innovative "savoir faire" educational method, which promotes hands-on learning, in Italian and English. Students are not limited to memorizing information, but are actively involved in activities that stimulate critical thinking and problem solving. The approach aims to develop transversal skills that promote the integral growth of students. Furthermore, the school stands out for the continuous professional development of its teachers, collaborating with pedagogical and didactic research institutes.

The study included two groups of students: one engaged in telecollaboration with human partners and the other with AI-driven virtual companions. The main objective was to assess how these different modes of interaction impact students' comprehension and use of ELF, as well as their intercultural communicative competence (ICC).

2.2 RESEARCH DESIGN

The project was carried out in the 2024-2025 school year and included two phases:

Phase 1: An exploratory session where pupils introduced themselves and learned about each other's cultures through question-and-answer (Q&A) activities.

Phase 2: A collaborative session in which the pupils worked together to create a song about intercultural friendship.

The AI- project replicated the same phases of the real telecollaboration project. Before and after treatment, pupils were asked to fill in paper and pencil questionnaires. The questionnaires included all 3 types of data that the questionnaires yield: factual, behavioral and attitudinal (Dörney, 2010). Qualitative data collection had to be appropriate for young learners, therefore most questions had multiple-choice items to choose from and remaining open questions contained certain guidance.

The first questionnaire consisted of 20 questions and included 2 sections. Its aim was to gather information about the pupils' use of English outside the classroom and their understanding of English as a Lingua Franca (ELF). After the treatment another survey was carried out including a questionnaire and a focus group to elicit further information about participants' perceptions. The second questionnaire consisted of 13 questions and encouraged participants to: a) reflect on their intercultural collaboration experience, and b) evaluate the communication strategies they employed during the cooperative task.

In the first group Italian and Kyrgyz teachers administered these questionnaires separately, and the results were not shared between them for privacy reasons. As a result, the data analysis and conclusions regarding the overall effectiveness of the project are based solely on the responses from the Italian participants.

2.3 PARTICIPANTS

Two groups of Italian young learners aged 10-11 participated in the study. All of them previously have achieved the Cambridge Young Learners Certification "Flyers".

1. Human-Human Interaction Group (n=16): Students in this group engaged in intercultural telecollaboration with peers from different cultural background (Kyrgyzstan), using real-time communication tools to collaborate on tasks designed to raise ELF awareness. The Italian and Kyrgyz pupils, were in Grade 6 (the final year of elementary school in Kyrgyzstan and the first year of middle school in Italy). The first group comprised sixteen Italian students from a bilingual Italian-English school in Rome

(St. Philip School), who collaborated on *PBworks* platform with fourteen Kyrgyz students from Bishkek (United World International School). The project also included the active participation of one Italian middle-school teacher and one Kyrgyz primary school teacher 2. Human-AI Interaction Group (n=16): This group worked with AI-powered virtual companions that simulated intercultural communication tasks and provided real-time feedback. It consisted of sixteen Italian students, who were in Grade 6 (the first year of middle school in Italy). They interacted with AI-powered bots on the AI-mediated language learning platform SchoolAI.

2.3.1 Platforms

Pbworks

Participants from the first group collaborated on the PBworks platform (formerly PBwiki), a real-time collaborative editing system. A free basic wiki workspace (http://stphilip.pbworks.com) was set up for the project, along with accounts for all Italian and Kyrgyz students. The students were instructed to click on the link provided, log in with their accounts, and introduce themselves and learn about each other's cultures through question-and-answer (Q&A) activities and then proceed to create together a song about intercultural friendship.

School AI

For the second group, ***SchoolAI* educational platform,** was used to provide interaction between young learners and AI-powered bots. *SchoolAI* has been widely adopted across the globe to upgrade the learning experience with powerful and safe AI-tools that adapt to individual learning styles. The platform was designed specifically to accommodate the needs of young learners, providing age-appropriate content and interaction features. Through the AI-bot, students were able to practice English in real-time, receive instant feedback, and engage in dialogues that simulate real-life situations, which is crucial for building both linguistic competence and confidence in communication.

Since the AI- project aimed to replicate the supportive learning environment found in real telecollaboration projects, the AI-bot - designed by the teacher - was programmed to be non-judgmental and patient, so that students could practice their language skills without fear of making mistakes or being criticized. This is especially important for young

learners, who may feel more comfortable interacting with AI than with human instructors when experimenting with new language skills.

In order to create the desired experience, that mimicked real-world intercultural communication scenario of the project that the first group of pupils was involved in, the teacher designed the chatbot with the following settings:

Title: English as a Lingua Franca: interaction with a Kyrgyz 10-year old in order to create a song about intercultural friendship

AI Prompt: mimic an ELF- interaction with a Kyrgyz 10-year old in order to collaboratively create a song about intercultural friendship. This chatbot should raise student's awareness of English as a lingua franca and develop their intercultural communicative competence.

Figure 1. Cover image of AI-powered chatbot

Source: SchoolAI

Description for students: Join a fun chat to create a song about friendship with a Kyrgyz friend and discover how English connects people worldwide and enhances cross-cultural communication.

School AI is an adaptive learning platform that has gained recognition among educators as a very flexible tool. The present study investigated whether, given the appropriate prompt, it would be able to mimic ELF interactions, drawing on source data from existing ELF-corpora that reflect real-world global communication practices. Nonetheless, it is essential to acknowledge that linguistic variation represents only one aspect of ELF-awareness. Equally important is the effort to raise awareness of ELF-related communicative strategies in ELT, thereby empowering L2 learners to become proficient ELF users in diverse international contexts (Rose; Galloway, 2019). In this sense, AI-

chatbots offer stimulating intercultural communication, allowing learners to experience communicative effectiveness without conforming to native-speaker norms.

2.4 DATA COLLECTION

Data were collected through a combination of questionnaires and qualitative interviews. Interaction data in the form of written messages posted by pupils were also analyzed to identify patterns related to ELF awareness, communication strategies, and cultural understanding. Employment of a mixed-methods approach was aimed at providing a comprehensive analysis of the impact of human-human and human-AI interactions on ELF awareness and ICC.

3 ANALYSIS AND FINDINGS

This experience was beneficial for the Italian young learners for several reasons. From the data analysis of the pre-treatment and post-treatment questionnaires, and from the focus group discussion we could see how the Italian young learners' attitude towards the use of English as a global language had gradually changed. Already in the pre-treatment stage, as the questionnaires have shown, some young learners knew that English was not only spoken in native-speaker and post-colonial countries. However, by the end of the telecollaboration project, as analysis of the questionnaires revealed, participants' ELF-awareness reached 85% of pupils in Group 1 and 75% in Group 2. As the results of the survey showed, working as an intercultural community of practice, all participants (100%) of Group 1 had improved their ICC via the use of ELF. For instance, in response to the question "What did you learn from this cooperation?" all participating students circled the option "I learned to work together with people from a different country". Further insights emerged during the focus group discussion, where pupils specified that they learned:

"to be patient"

"we are all different"

"to put something of us" = to make their contribution

"not always things can go the way you want"

"I can have friends in all the world"

"everyone can be friends no matter what"

"working together we can achieve better results" (learners' expressions).

For Group 2 the results were significantly lower, only 62% of students demonstrated improvement in ICC, due to the perception of dealing with a computer program and a wide-spread feeling of AI-bot as "having no personality" and "being fake" (*learners' expressions*).

As the data indicate, the vast majority of pupils from both groups especially appreciated the creative dimension of the project. Moreover, participants in Group 1 showed their genuine appreciation for the differences and similarities between their cultures and enjoyed the social dimension of intercultural telecollaboration as an opportunity to meet new friends from a different part of the world.

The dynamics observed in the analysis of the corpus compiled for this study, which includes young learners' interactions with both peers and AI-powered chatbots, offer valuable insights. These findings not only contribute to future research but also have practical implications for enhancing the functionality of existing AI platforms, making them more realistic and suitable for young learners.

One potential direction for future research in the field of AI-chatbots might be the exploring their ability to mimic ELF interactions drawing on source data from existing ELF-corpora that reflect real-world global communication practices. Currently AI-powered virtual companions interact though Standard English, even when prompted to simulate ELF-style negotiations, which poses certain limits to the authenticity of such ELF-experience.

However, it is important to recognize that linguistic variation is only one component of ELF-awareness. Equally important is the focus on communicative effectiveness, prioritizing mutual intelligibility, clarity and understanding that meaning is co-

constructed in interaction, often through negotiation. AI-chatbots remain valuable in imitating scenarios of intercultural exchange, as they encourage learner agency and enable them to experience communicative effectiveness despite their lack of adherence to native-speaker norms.

In fact, in this study we see how School AI understood and handled non-standard input produced by students really well, while we also see some instances of negotiation of meaning typical of ELF-interactions, when pupils and AI reciprocally ask clarifying questions. Some examples from the corpus compiled for the study can be found below:

Example 1

AI: I'm not sure what you mean by a "2m bear."

G.B.: I meant beard

AI: Ah, beard!

Example 2

C.A. i didn't want to mean that...

AI: No worries!

Example 3

G.F. what does complemented means

AI: "Complemented" means when two or more things work together in a way that makes each better.

Example 4

AI: Do you think music can capture the essence of a person or an emotion?

H.S. I am sorry but I dont think I quite understad what you mean by capturing hthe essence of a person or an emotion[2]

[2] Original spelling is preserved.

These findings prove AI's potential to support ELF-aware pedagogy, including the development of pragmatic strategies necessary to manage real-world communication.

Interaction Dynamics

The interactions between human participants were notably balanced, with both parties mirroring each other in terms of style and length. In contrast, interactions with AI were more disproportionate, as the AI generated significantly longer responses in a formal, adult-like tone that did not align with the register typically used by young learners. This contrast affected emotional engagement, with interactions between real young learners building stronger emotional connections. It highlights the need for AI language to be calibrated to a level more appropriate for young learners, in order to create a more authentic communication experience. Moreover, the study empirically confirmed that despite the settings of AI-bots at SchoolAI that were designed to simulate intercultural communication and ELF-use, the input they produced remained Standard English.

Creativity.

In human-to-human interactions, students demonstrated significantly greater creativity in their lyrics, putting forth considerable effort to generate thoughtful and original contributions. In contrast, during interactions with AI, students primarily provided prompts and relied on the AI to generate the lyrics. This observation underscores the potential for deskilling resulting from an overreliance on technology.

Feedback.

Throughout their collaboration, learners focused more on content rather than form, often adding new ideas or modifying lines in lyrics, rather than correcting lexicogrammatical deviations from native speaker norms. This finding aligns with Grazzi's study (2014), which suggested that ELF can effectively serve the pragmatic needs of learners in collaborative settings. However, in interactions with AI, students often received immediate corrective feedback in the form of recasts, which they then incorporated into their own language use. In this context, the AI-human interactions proved to be potentially more beneficial for enhancing English language proficiency.

Translanguaging Practices.

Translanguaging, (Garcìa; Wei, 2014), a common feature of ELF communication, was observed in both human-human and human-AI interactions. Given that AI platforms

support communication in multiple languages, translanguaging was even more prevalent in interactions with AI, enabling learners to draw on their full linguistic repertoire.

Use of Non-Verbal Semiotic Resources.

Both interaction modalities, whether human-human or human-AI, involved the use of non-verbal semiotic resources, further enriching communication. Pupils occasionally used emojis in an attempt to bring their feelings into a digital space. If prompted by a pupil's request (e.g. *E.M. "can you put me an emoji?"*) AI also generated emojis to illustrate its points. While pupils used traditional emojis like facial expressions, emojis generated by AI-bot were more sophisticated and unique.

Deviations from the Topic.

While some deviations from the topic occurred in human-human interactions, they were far more frequent in human-AI exchanges. Students engaging with human partners tended to show a genuine curiosity about their peers, whereas those interacting with AI sometimes expressed frustration by inputting random characters (e.g. "`1234567890-=][poiuytrewqasdfghjkl;'#'/.,mnbvcxz\"). It sometimes happened when AI-bot tried to elicit a personal response from a student (e.g. by asking "What do you think?").

Emotional Engagement.

The Human-Human Interactions group demonstrated a stronger emotional engagement which can be attributed not only to the mirroring practices mentioned above but also to the understanding that students were interacting with real people. The analysis of the interaction corpus revealed that phrases like "you are not real" or "you are an AI" were used frequently, underscoring the students' awareness that they were conversing with a computer program rather than a human. However, this was not true for all learners. For instance, in response to the question "One thing you like about this activity is…" a few students wrote "I like both AI and the realism of AI".

Some of them managed to create an emotional relationship with a bot and perceived it as a friend while working on the song. They used terms of endearment, typical among close friends, while referring to the bot, producing phrases like "bro that was insane but you don't included you" or "can you include in the song some thing of you"[3]. The bots responded by adding the verses to a song that appeared too centered around a student (e.g. "And I'm here as your friend cheering you on,/Learning together, from dusk till

[3] Original spelling is preserved.

dawn./With every word we share, we grow and connect,/In this rap of friendship, we're perfect, respect!"). Despite AI's ability to mimic human-like conversation, it is clear that improvements in pragmatic features are needed to offer a more authentic interaction experience.

Social Networks.

Some studies suggest that "AI companions successfully alleviate loneliness on par with interacting with another person" (De Freitas *et al.*, 2024, p.1). Such results can be achieved because bots designed for human interaction are often programmed to convey warmth and care and their emotional tone encourages engagement (*ibid.*) However, implementing AI in language classroom needs to ensure that it aligns with the developmental needs of young learners. Clearly, despite their emotional warmth, these AI agents are not real people, and relying on them instead of human interaction may deprive students of valuable opportunities to expand their social networks. Studies emphasize that the relationships students form are crucial to their development, and their opportunities are shaped not only by knowledge but also by the networks they can access (Fisher, 2018). The advent of the internet has removed geographical barriers, allowing for broader networks, and schools can harness this potential to become hubs of next-generation learning and connection. Focusing too heavily on technology and performance risks sidelining the power of human relationships, which are key to future social mobility for students.

These findings reveal the differences in the outcomes of human-human and human-AI interactions, although both contributed positively to ELF awareness and ICC, as indicated in the beginning of this section.

4 DISCUSSION

The empirical findings presented in the previous section must be considered within the context of several limitations. Firstly, while the data collection methods were consistent (same questionnaires and interview questions), the interaction modalities differed. Human-human interactions occurred in a class-to-class setting, whereas human-AI interactions involved individual students engaging with a chatbot. This disparity in interaction modes may have influenced the research outcomes. At present, SchoolAI platform cannot facilitate group interactions with AI. This raises an important

consideration for enhancing the functionality of current AI platforms, specifically enabling AI chatbots to serve as mediators in collaborative projects. Such improvements would help mitigate the sense of isolation associated with personalized learning paths offered by AI.

Second, the data analysis and the conclusions about the overall human-human project efficiency are only based on the Italian respondents' answers, as was explained above. This major drawback could be addressed in the future, if the authors of this study will be given access to Kyrgyz data. This would allow us to complete our research by comparing the results of the surveys conducted with both classes, in order to examine how the development of young learners' intercultural competence and ELF-awareness varied within the community of practice.

The comparative analysis highlights that while both human-human and human-AI interactions contribute to ELF awareness, they offer different but complementary benefits. Human-human interactions excel in promoting deep cultural engagement and emotional connections, which are essential for developing ICC and understanding the peculiarities of ELF communication. In contrast, human-AI interactions proved to be less efficient in this sense but they provide students with personalized, consistent language practice, offering opportunities for immediate feedback and reinforcing language skills.

The findings suggest that although AI tools can complement human interaction by providing additional practice opportunities and reinforcing learning, they cannot replace the cultural and emotional depth provided by human communication. Therefore, a blended approach, combining both modalities, could offer the best of both worlds—consistent, personalized language support through AI and rich, context-sensitive cultural interactions through human collaboration.

5 CONCLUSIONS

This study contributes to the expanding body of research on the role of AI in language education, with a particular focus on promoting ELF awareness in young learners. Both human-human and human-AI interactions positively influenced ELF awareness and intercultural communicative competence (ICC); however, human-human

interactions proved more effective. They also provided deeper cultural insights and emotional engagement. On the other hand, AI tools proved to be less efficient in raising ELF awareness and ICC but offered significant advantages in terms of personalized practice and consistent feedback. By combining the efficiency of AI with the emotional connection and empathy inherent in human interactions, a hybrid learning model can be developed that benefits both students and educators.

In addition, teacher education programs should focus not only on preparing educators to integrate AI tools into ELF-centered language instruction but also on emphasizing the importance of building students' social capital. In other words, while knowledge is important, developing personal connections through real telecollaboration is essential for students' future success. Forming and nurturing long-lasting bonds with peers, who can contribute to their support network, is something that cannot be replaced by technology.

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