Sociocultural Competence in Second Life: Exploring Saudi English Language Learners' Perceptions and Interactional Practices

الكفاءة الاجتماعية والثقافية في بيئة Second Life: استكشاف تصورات متعلمي اللغة الإنجليزية السعوديين وممارساتهم التفاعلية

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Dr. Hana Mohamed Saeed Alqahtany*

*King Khalid University, educational collage

Abstract:

Th study explored how Saudi English language learners' experiences in Second Life (SL) provided opportunities to practice sociocultural competence. An exploratory qualitative approach was adopted, with data collected through interviews, observations, and analysis of participants' actual interactions in the virtual environment. The data were analysed inductively to identify emerging dimensions and then interpreted using Celce-Murcia's (2007) framework of sociocultural competence. Four interrelated dimensions emerged: intercultural interaction, awareness of social and cultural differences, understanding appropriate social norms and behaviours, and relationship building and participation in social communities. The findings showed that participants adapted their communication to social contexts and relationships, employed politeness, mitigation, and humour, and engaged with diverse cultural practices and perspectives. Cultural gaps played a dual role: they could stimulate questions, comparisons, explanations, and negotiation of meaning, but could also constrain participation when participants lacked relevant cultural knowledge. Nonverbal communication was less evident, although digital resources such as emoticons performed some nonverbal functions. Overall, the findings suggest that multicultural virtual environments can provide meaningful contexts for practicing sociocultural competence and negotiating both linguistic and cultural meanings.

Keywords: sociocultural competence; Second Life; virtual worlds; English language learning.

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د. هناء محمد سعيد القحطاني

الملخص

هدفت هذه الدراسة إلى استكشاف كيفية إسهام تجارب متعلمي اللغة الإنجليزية السعوديين في بيئة Second Life (SL) في ممارسة الكفاءة الاجتماعية والثقافية. واعتمدت الدراسة منهجاً نوعياً استكشافياً، وجمعت البيانات من خلال المقابلات والملاحظات وتحليل التفاعلات الفعلية للمشاركين في البيئة الافتراضية. وحُلّلت البيانات استقرائياً للكشف عن الأبعاد الناشئة من تجارب المشاركين، ثم فسرت النتائج في ضوء مكونات الكفاءة الاجتماعية والثقافية في نموذج Celce-Murcia (2007). وكشف التحليل عن أربعة أبعاد مترابطة: التفاعل بين الثقافات، والوعي بالاختلافات الثقافية والاجتماعية، وفهم الأعراف والسلوكيات الاجتماعية الملائمة، وبناء العلاقات والمشاركة في المجتمعات الاجتماعية. وأظهرت النتائج أن المشاركين كيفوا أساليبهم التواصلية وفقا للسياق والعلاقات الاجتماعية، واستخدموا استراتيجيات مثل اللباقة والتلطيف والفكاهة، وتفاعلوا مع ممارسات ووجهات نظر ثقافية متنوعة. وكشفت الدراسة أن الفجوات الثقافية قد تعمل بطريقتين؛ إذ يمكن أن تحفز الاستفسار والمقارنة والتفاوض على المعنى، أو تحد من المشاركة عندما تكون المعرفة الثقافية غير كافية. كما كان التواصل غير اللفظي أقل بروزاً، مع ظهور بعض البدائل الرقمية كالرموز التعبيرية. وتشير النتائج إلى أن البيئات الافتراضية متعددة الثقافات يمكن أن توفر سياقات ذات معنى لممارسة الكفاءة الاجتماعية والثقافية والتفاوض على المعاني اللغوية والثقافية.

الكلمات المفتاحية: الكفاءة الاجتماعية-الثقافية؛ "سكند لايف" (Second Life)؛ العوالم الافتراضية؛ تعلم اللغة الإنجليزية.

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Introduction

Information Digital technology has transformed foreign language learning, extending the process beyond the traditional classroom into digital environments that offer broader opportunities for interaction, collaboration, and language use in diverse contexts (Su & Zou, 2022; Yusupalieva, 2024). This aligns with social constructivist perspectives emphasizing knowledge construction through interaction and collaboration (Gnawardena, Flor, & Sánchez, 2025) as well as interactionist perspectives in second language learning that highlight the importance of negotiation of meaning, linguistic output, and feedback during communication (Gass, Mackey, & Montee, 2025).

In this context, 3D virtual worlds have emerged as environments offering immersion, social presence, and synchronous, multi-channel communication (Ebrahimi& Ramaprasad, 2025). Second Life (SL) stands out as a prominent example; it enables users to interact via avatars, communicate through voice and text, and engage in shared activities (Sadler, 2017), thereby fostering collaboration, experiential learning, and knowledge construction (Grant, Huang, & Pasfield-Neofitou, 2013; Tan, O'Halloran, & Wignell, 2016). Studies have highlighted its potential to support communication and collaboration (Canto and Ondarra, 2017), increase motivation (Lan et al., 2019), reduce language anxiety (Kruk, 2020), and facilitate language practice and interaction with individuals from diverse linguistic and cultural backgrounds (Chen, 2016). These capabilities gain significance in the light of the concept of communicative competence (CC), which views language learning as the ability to use language effectively and appropriately across various contexts, rather than merely mastering grammar and vocabulary (Savignon, 2018). Celce-Murcia's (2007) model offers a multidimensional framework for this competence. Among these dimensions is sociocultural competence, which is the focus of the study. Sociocultural competence is defined as the use of language in a manner appropriate to the sociocultural context, while taking into account participant relationships, social distance, formality, cultural norms, and politeness (Celce-Murcia et al.,1995; Celce-Murcia, 2007).

From this perspective, SL environment provides a suitable context for exploring sociocultural competence, as it facilitates interaction with individuals from diverse backgrounds and presents situations requiring appropriate language choice, interaction management, negotiation of meaning, and the navigation of cultural differences. Consequently, this study aims to explore how Saudi participants enact English sociocultural competence through their experiences and interactions in SL, guided by the following primary research question:

How do the experiences of Saudi participants in SL contribute to practicing socio-cultural competence in English?

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This question gives rise to the following sub-questions:

1- How do participants perceive the contribution of their SL experiences to the practice of sociocultural competence in English? and

2- What aspects of sociocultural competence emerge in the participants' experiences and interactions in SL?

Theoretical framework and literature review

Communicative competence and sociocultural competence

The concept of communicative competence (CC) forms the primary theoretical foundation of this study. Canale and Swain (1980) introduced one of the most influential models for interpreting this concept; Celce-Murcia et al. (1995) later developed a model more closely aligned with language teaching and practical application, aiming to provide a clearer conceptualization of the components of CC and the relationships between them. The model proposed by Celce-Murcia et al. (1995) was distinguished by the inclusion of actional competence as an independent component concerned with understanding and producing communicative intentions and speech acts. It also adopted the concept of sociocultural competence rather than limiting itself to sociolinguistic competence, thereby broadening the scope from the appropriateness of linguistic choices to the social and cultural dimensions governing communication.

In a later development, Celce-Murcia (2007) presented a revised model of CC comprising six components: sociocultural competence, discourse competence, linguistic competence, formulaic competence, interactional competence, and strategic competence. Key modifications included the addition of formulaic competence, pertaining to knowledge of the fixed and semi-fixed phrases and structures common in communication, and the expansion of actional competence into interactional competence, encompassing the performance of speech acts and the management of interaction with others.

This perspective is particularly significant for studying communication within virtual environments, where interaction requires the integrated application of multiple components of CC. Learners require linguistic and formulaic resources to express meaning; discourse competence to organize and link that meaning to the conversational context; interactional competence to manage communication; and strategic competence to address communication difficulties—alongside sociocultural competence to select language appropriate to the social and cultural situation.

In the light of this interconnectedness, this study focuses on sociocultural competence as the primary analytical framework for understanding how participants use English in ways that align with the sociocultural contexts they encounter within the SL environment. This competence is not examined in isolation from other communicative competencies but rather as an integral part of holistic communicative

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performance. Consequently, the model developed by Celce-Murcia et al. (1995) and then by Celce-Murcia (2007) provides a theoretical basis for interpreting participant interactions, while directing the analysis primarily toward manifestations of sociocultural competence.

Digital Technology and Language Learning from a Social-Interactive Perspective

Computer- Computer-Assisted Language Learning (CALL) theories have contributed to explaining how digital technology is utilized in language learning. These theories reflect a shift from the behavioral perspective's focus on practice and feedback (Al-Kadi, 2018) to the cognitive perspective's emphasis on active information processing and knowledge organization (Ertmer and Newby, 2013), and subsequently to the social constructivist view of learning as a social process grounded in interaction, collaboration, and knowledge co-construction with others (Lim and Newby, 2020). Connectivism further expanded this conceptualization by viewing learning in digital environments as being based on connections and relationships, while the interactionist perspective in second language learning emphasizes the roles of interaction, negotiation of meaning, and language production and modification during communication (Michel, 2018).

Social constructivism and the interactionist perspective are particularly significant in explaining language learning within virtual worlds; here, learners do not merely receive language individually but use it to interact with others and participate in shared activities and situations. These environments offer opportunities for negotiating meaning, taking turns, building relationships, resolving misunderstandings, and navigating diverse social and cultural contexts. Consequently, interaction itself becomes a context for learning and language practice, rather than simply a means to apply what has already been learned.

This applies to (SL) environment, a digital social space that enables learners to communicate with users from diverse backgrounds and engage in situations requiring language use to achieve authentic communicative goals. From this perspective, interaction within this environment creates opportunities to practice CC—particularly sociocultural competence—by understanding sociocultural differences and selecting language appropriate to the situation, relationship, and context.

This perspective complements the CC models proposed by Celce-Murcia, Dörnyei, and Thurrell (1995) and Celce-Murcia (2007), both of which view communication as the product of the interaction among a set of interconnected competencies. Accordingly, the study proceeds from the premise that digital technology can provide a social and interactive context for language practice through participation, negotiation of meaning, relationship building, and engagement with sociocultural diversity; these processes help explain how sociocultural competence emerges during participant interactions within the SL environment.

Second life

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Second Life (SL) is a 3D multimedia virtual environment developed by Linden Lab in 2003 and designed primarily for adult users (Sadler, 2017; Citarella, 2021). Although it is sometimes described as a game, it represents a persistent virtual world featuring diverse social, educational, and recreational activities (McMahan, 2024). It enables users to navigate between multiple virtual spaces and interact with others, as well as utilize or participate in the creation of digital content (Sadler, 2012).

Users participate in this environment through customizable virtual personas known as avatars, which can take on human or non-human forms—such as animals, fictional characters, or robots (Sadler, 2012). Through their avatars, users can navigate and interact with people, places, and digital objects, as well as engage with, design, and create content within the environment, thereby fostering interactivity and active engagement (Harris & Rea, 2009).

SL also features various modes of verbal and non-verbal communication (Pasfield-(Pasfield-Neofitou et al., 2015; Tan et al., 2016). Verbal communication occurs via voice and text chats, taking place either publicly among those present in the same virtual location or privately between specific users. Non-verbal communication is manifested through the avatar's appearance and clothing, movements, facial expressions, and the spatial distance between characters, as well as the emojis used to convey emotions (Citarella, 2021; Palomeque, 2018).

These characteristics render communication in SL more than a mere exchange of linguistic messages; interaction combines language with visual, kinetic, and contextual cues that help users interpret meaning and understand the situation and the relationships between participants. Furthermore, these elements contribute to enhancing social presence and situating language use within a clearer communicative context (Pasfield-Neofitou et al., 2016).

Second life as an educational environment

SL environment has garnered attention in the educational sphere due to the opportunities it offers for interaction, engagement, and experiential learning. It has been utilized across various fields, including arts and design (Dadakoğlu and Özsoy, 2020), computer programming (Sajjanhar and Faulkner, 2019), medical education (Lorenzo-Alvarez et al., 2020), and educational model design (Sancar-Tokmak and Dogusoy, 2020). In the field of CALL, SL has been used to provide interactive contexts for language practice (Kim & Blankenship, 2013). Studies have highlighted its potential to support communication and collaboration (Canto & Ondarra, 2017; Kim et al., 2018) enhance motivation (Wehner et al., 2011; Lan et al., 2016, 2019), and reduce language anxiety (Kruk, 2020).

Language learning activities within the environment range from those targeting specific linguistic aspects (e.g., DuQuette, 2011; Henderson et al., 2012) to less structured activities focusing on fluency and spontaneous language use—such as tours, interviews, discussions, and information-exchange tasks (e.g., Akayoğlu and Seferoğlu, 2019; Wang et al., 2009; Wehner's et al., 2011). It has also been employed in Content and Language Integrated Learning (CLIL), collaborative tasks,

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and both independent and semi-independent interaction (e.g., Antoniadou, 2011; Wigham & Chanier, 2015). Less structured activities are particularly important for social competence, as they require selecting appropriate language, managing interaction and negotiation, and adapting to changing communicative situations (Wehner's et al., 2011).

Sociocultural competence in SL

Sociocultural competence refers to a learner's ability to use language appropriately within a given sociocultural context by considering speaker relationships, levels of formality, social distance, norms of politeness, and cultural values and practices (Celce-Murcia, 2007). This competence is particularly significant in SL, as it facilitates interaction with users from diverse backgrounds, the exchange of experiences, and the observation of variations in language use and cultural practices. Kim et al. (2018) found that authentic communication in this environment enabled participants to use vocabulary and phrases more appropriately, engage in diverse conversations, exchange information about cultures, and gain insight into linguistic and cultural differences.

Studies have also demonstrated the potential of SL to foster cultural exchange and awareness. Research by Canto and Ondarra (2017) and Balcikanli (2012) highlighted opportunities for exchanging cultural knowledge and identifying cross-cultural similarities and differences. Jauregi et al. (2011) showed that exploring culturally significant locations and discussing unfamiliar customs fostered intercultural interactions, while Yu et al. (2020) demonstrated that visiting environments representing different cultures and discussing topics such as food and social practices provided opportunities for context-based cultural learning.

Sociocultural competence is not limited to knowledge of cultural differences; it also manifests in the management of relationships and interactions with others. Peterson (2012) found that English language learners employed linguistic and social practices—such as greetings and farewells, small talk, humor, informal language, and expressions of familiarity, which helped reduce social distance and facilitate interaction. Other studies have also highlighted the use of humor, comprehension checks, and collaborative phrases (e.g., "let's...") to maintain interaction and collaborative work (Canto & Ondarra, 2017; Yamazaki, 2018). These practices reflect the learner's ability to select language and communicative behaviors appropriate to the relationship and the social context.

Although previous studies have highlighted the potential of SL for linguistic interaction and intercultural communication, the ways in which sociocultural competence emerges and is enacted during actual interaction require further exploration. Furthermore, the link between learners' perceptions of their sociocultural experiences and what actually manifests in their communicative practices has not received sufficient attention. Accordingly, this study views SL as a sociocultural context that enables English language practice through voice, text, and non-verbal communication, as well as interaction with users from diverse

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backgrounds. It seeks to explore sociocultural competence by combining participants' perceptions of their experiences with an analysis of their actual interactive practices, thereby providing a more comprehensive understanding of how this competence emerges and is enacted within a multicultural virtual context.

Methodology

Research Method and Study Design

The study employed a qualitative approach that is aligned with its objective of exploring learners' experiences while using SL environment and understanding their perceptions and interactive practices within it, with a specific focus on sociocultural competence as a dimension of CC. This qualitative approach enables the study and interpretation of participants' experiences within their specific context, revealing how sociocultural practices manifest during actual interaction.

The study adopted a case study design, focusing on the experiences of a group of Saudi English language learners as they used SL and interacted with others within the virtual environment. This design is well-suited to the study's exploratory nature, as it allows for an in-depth examination of the phenomenon within its natural context and utilizes multiple data sources to understand the complexities and various dimensions of the experience as it unfolds in its natural context (Simons, 2009; Stake, 2005).

Data collection relied on two primary, complementary sources: observation and analysis of interactions, and semi-structured interviews. Observation and interaction analysis enabled tracking participants' communicative practices in their actual context and revealed how social and cultural aspects emerged during their interactions with others. Meanwhile, the semi-structured interviews allowed participants to articulate their experiences, perceptions, and interpretations of the social and cultural situations they encountered while using the virtual environment.

Data collection followed a sequential approach, which is defined as different data form is collected in different times in which one form informs the other (Bazeley, 2017). participants' interactions were observed and documented during their use of SL, followed by semi-structured interviews to explore their experiences in greater depth and to understand their perceptions and interpretations of the situations they encountered. This sequential approach enabled a link to be established between actual communicative practices and the perceptions and experiences articulated by the participants.

Data from each source were analyzed in a manner appropriate to their nature; subsequently, findings derived from the interviews were compared with those from observations and interaction analysis to identify points of convergence, divergence, and complementarity. Relying on multiple qualitative data sources facilitated data triangulation, thereby enhancing the trustworthiness of the results (Riazi, 2016), and providing a more comprehensive understanding of the participants' experiences and of socio-cultural competence as manifested in the virtual environment.

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Participants

The study employed non-probability sampling, combining convenience sampling and snowball sampling. Recruitment began by inviting female university students majoring in English programs to participate voluntarily. The educational institution was selected due to the ease of access to participants and the institution's cooperation in conducting the study. The initial recruitment phase yielded ten volunteers. Given the limited number, snowball sampling was subsequently used; participants were asked to invite others who might be interested in the study, resulting in the addition of thirteen more participants.

Consequently, the final number of participants reached 23: thirteen were enrolled in an English program or graduate of an English program, and ten graduates from other disciplines who were willing to improve their English langauge. Participants ranged in age from 18 to 50, and their English proficiency levels varied between A2 and C1, enabling the study to explore the experiences of learners with diverse backgrounds and language proficiency levels.

Study Procedures and Data Collection

The study procedures commenced after obtaining the necessary research permit from a Saudi university. An introductory workshop was held to familiarize participants with the study's objectives, the SL environment, and the nature of the activities and interactions involved, as well as to outline participant rights and data confidentiality. Participants were also provided with instructional materials on using and navigating the platform; individual online meetings were conducted as needed to ensure they possessed the requisite technical skills and to address any inquiries prior to the start of the experiment.

Before using SL, a preliminary questionnaire was administered to gather background information on the participants—such as their English language proficiency, technical expertise, out-of-class language usage habits, and expectations regarding the experiment. Data from this questionnaire were not included in the study's formal analysis but were used solely to characterize the participants and provide contextual information about their backgrounds.

Subsequently, the participants began using SL, engaging in activities, and interacting with other users. The observation period spanned from October 2018 to July 2019, encompassing both formal and informal activities as well as interactions that arose during the exploration of the virtual environment. These interactions were documented through field notes, selected recordings, and logs of oral and written conversations, enabling the observation of the participants' communicative practices within their actual context.

Semi-structured interviews were conducted at least three months after each participant had begun using SL. These interviews focused on the participants' communicative experiences, their language use, and their perceptions of interaction within the virtual environment. Conducted in Arabic at the participants' request, the

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interviews allowed them to express their experiences and opinions without their English language proficiency limiting their responses. A total of 23 interviews were conducted—12 in person and 11 via video—ranging in duration from 38 to 74 minutes. The interviews were audio-recorded and transcribed; the transcripts were then sent to the participants for review and the addition of any necessary clarifications, thereby ensuring data accuracy and credibility.

Data Analysis

Interview analysis employed Thematic Analysis (Braun & Clarke, 2006), utilizing an inductive approach that allowed codes and themes to emerge from the data itself, rather than imposing pre-determined themes. The analysis proceeded through six interconnected stages: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and finally, report writing.

The analysis began with transcribing the interviews, reading them repeatedly, and making reflective notes; this was followed by coding the data and identifying units of meaning relevant to the study questions. NVivo software was used to organize and code the data and to develop themes. After several rounds of coding and review, related codes were grouped into broader themes, which were then reviewed against the research questions and the original data.

Observational data were treated as supplementary qualitative data that supported the interview findings and provided actual examples of communication patterns occurring within SL. Examples of interactive situations involving the participants were selected, classified, organized, and analyzed deductively based on the components of the sociocultural competence. The findings were presented—supported by excerpts from the interactions—to illustrate the communication patterns that emerged during the experiment. Thus, combining these diverse data sources enabled a more comprehensive explanation of the participants' experience and an understanding of the role of interaction within the virtual environment regarding CC and associated socio-cultural aspects.

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Results

An inductive analysis of data from interviews, observations, and interactions within SL revealed four interconnected dimensions of sociocultural competence: intercultural interaction; awareness of cultural and social differences; understanding of appropriate social norms and behaviors; and relationship-building and participation in social communities. To organize and interpret these findings within the study's theoretical framework, the data-derived dimensions were linked to the components of sociocultural competence in the Celce-Murcia (2007) model: sociocultural factors, stylistic appropriateness, cultural factors, and non-verbal communication factors.

Accordingly, the findings are presented in alignment with the factors of the Celce-Murcia model, identifying the data-derived dimensions relevant to each factor. The presentation of each factor begins with interview results—reflecting participants' perceptions and interpretations of their experiences—followed by findings from observations and interaction analysis, which illustrate how these aspects manifest in their actual communicative practices.

Socio-contextual Factors

Socio-contextual factors were linked to the following prominent dimensions: understanding appropriate social norms and behaviors, building relationships and participating in social communities. The results showed that interaction in SL required participants to grasp the nature of relationships, social roles, and the norms governing the initiation and continuation of communication.

Interviews revealed the participants' awareness of how modes of address, greetings, and levels of formality varied according to the context. For instance, Eternity considered another Saudi participant's use of the phrase "Excuse me, Teacher" inappropriate for the virtual environment, where users typically addressed one another by their avatar names; she interpreted the use of the formal title as a reflection of Saudi social norms. Her experience of changing her avatar's clothes in a public space—before another SL user alerted her to the need to move to a more private location—also demonstrated that certain social norms are acquired through the process of interaction itself. Similarly, Rim's concern regarding her avatar's appearance and how others perceived it reflected an awareness of social expectations surrounding appearance within the virtual environment.

The interviews also highlighted how participants formed friendships and joined various virtual communities. Bliss's relationship with her American friend evolved gradually, with their conversations and banter becoming more spontaneous; some relationships even extended to communication via channels outside the virtual environment.

Observational data corroborated these findings, as participants were mindful of the boundaries involved in joining ongoing interactions. Rose, for example, left when the person she approached showed no interest in communicating, explaining that she did not wish to intrude, while Wishes and Hope waited for signals of

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acceptance before joining conversations. A gradual adaptation to the norms of the virtual community also emerged; whereas some participants initially entered or left groups without greeting others, they later began using greetings and farewells and addressing others by their avatar names. Social engagement extended to shared activities—such as Gold joining a dance club group, and Glories sharing sailing and car racing activities with a Turkish friend. These practices indicate a link between learning social norms and both relationship-building and active participation within the virtual community.

Stylistic Appropriateness

Stylistic appropriateness was evident in the participants' recognition of the need to adapt their language use according to the context, the nature of the relationship, and the level of formality. Interviews revealed their awareness of the distinction between the language used in more formal educational activities and that used in informal social situations within SL. The importance of tact when communicating with unfamiliar individuals also became apparent, particularly given the limited information available regarding users' real-world identities and the potential for misunderstanding.

Observations and interaction analyses provided evidence of this awareness in practice; participants employed apologies—such as when running late, being unable to respond, or leaving a conversation—as well as expressions of gratitude, hedging, and indirect communication styles. When expressing disagreement, they used phrases like "I think" and "perhaps," along with modal expressions and tag questions, rather than resorting to direct rejection or criticism. They also utilized humor and playful comments to build rapport and soften the tone of interactions. Thus, stylistic appropriateness was demonstrated through the adjustment of directness and the selection of linguistic strategies tailored to the specific situation and social relationship.

Cultural Factors

Cultural factors were primarily linked to the dimensions of intercultural interaction and awareness of cultural and social differences. Interviews revealed that participants interacted in English with users from diverse nationalities and linguistic and cultural backgrounds. A case in point is Bliss's experience with her American friend; initially, she struggled to understand her speech and humor, but continued communication led to greater understanding and spontaneous interaction.

The interviews also demonstrated a growing awareness of cultural and linguistic diversity through the observation of dialectal differences and exposure to new cultural perspectives and practices—such as varying views on Thanksgiving and the boundaries of socially acceptable topics, particularly sensitive political and personal subjects. Some participants also took part in cultural and social events—including the Japanese Emperor's enthronement ceremony and the start of the Reiwa era, Halloween, weddings, and virtual community celebrations—allowing them to learn about culture by participating in its social contexts.

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Observations provided direct examples of intercultural interaction. Rim, for instance, discussed pet ownership with an Italian woman and other users, explaining practices within Saudi society. Similarly, Gold discussed Saudi attire, the abaya, women's conversational styles in Saudi society with other users. The participants did not merely share information about their own culture; they also engaged with others' perceptions, accepting some and correcting others, while employing tact and humor when disagreements arose.

Conversely, some interactions highlighted the impact of a lack of cultural knowledge on participation; Grace, for instance, withdrew from a discussion about the Democratic and Republican parties due to her insufficient familiarity with the American political context. Other opportunities for cultural comparison arose through discussions regarding proverbs, greetings, and the differences between British and American English. These findings demonstrate that intercultural interaction was not limited to mere exposure to diversity; rather, it encompassed observing differences, comparing them with one's native culture, and negotiating their meanings during communication.

Nonverbal Communicative Factors

Non-verbal communication factors were less prominent in the data compared to the previously discussed factors. The interviews primarily highlighted the participants' awareness of the limitations regarding non-verbal cues in virtual communication. One participant noted that she was more careful to use polite language because others could not easily discern her identity, personality, or beliefs; the data also indicated that the absence of certain non-verbal cues could make resolving misunderstandings more difficult.

However, interaction analysis revealed the use of digital means to perform functions typically associated with non-verbal communication—such as emojis, character repetition, and capitalization for emphasis. For instance, when a participant was late for an activity, she received a greeting and a compliment on her avatar accompanied by a smiley face emoticon ":)"; she responded with thanks and used the same emoticon, thereby helping to convey emotion and foster rapport within the text-based interaction. Nevertheless, the data did not provide sufficient evidence for all elements of non-verbal communication outlined in the Celce-Murcia (2007) model, such as physical distance, touch, and body movements.

Disscussion

The study results indicate that interaction within SL provided participants with opportunities to practice various aspects of sociocultural competence; language was used in situations requiring attention to speaker relationships, stylistic appropriateness, the navigation of cultural differences, and the deployment of both verbal and non-verbal resources. This can be interpreted through the lens of Celce-Murcia's (2007) model, which links sociocultural competence to socio-contextual factors, stylistic appropriateness, cultural factors, and non-verbal communication.

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These findings align with studies highlighting the sociocultural potential of virtual worlds, where the diversity of user identities and backgrounds fosters opportunities for intercultural communication and engagement with others (Diehl & Prins, 2008; Abdallah and Mansour, 2015; Chen, 2016; Sharma, 2023). Furthermore, virtual environments can offer cultural experiences that are difficult to replicate to the same extent in traditional classrooms—facilitated by virtual tours, diverse cultural contexts, role-playing, and object-building activities (Cooke-Plagwitz, 2009; Pasfield-Neofitou et al., 2016; Chen, 2020). Consequently, the value of SL experience extends beyond mere language practice to encompass language use within diverse sociocultural contexts.

Sociocontextual Factors and Stylistic Appropriateness

The results demonstrated that repeated interaction heightened participants' awareness of how language use and communicative behavior vary according to the situation and the social relationship involved. Participants moved between educational activities, social conversations, and virtual groups and communities, thereby encountering varying levels of formality as well as different styles of greeting, address, and relationship-building. This awareness was also evident in their use of tact, indirectness, and humor, as well as in their adjustment of directness according to the context.

This finding aligns with Jauregi et al. (2011), who noted that discussing cultural aspects—including humor—can contribute to developing intercultural communication skills and managing interactions with individuals from diverse backgrounds. This study's results indicate that linguistic appropriateness was not merely abstract knowledge for the participants; rather, it manifested in communicative decisions regarding how to initiate, sustain, and conclude interactions and how to maintain relationships with others.

Cultural Factors and Intercultural Communication

Intercultural interaction emerged as a prominent aspect of the participants' experiences; the diversity within SL enabled them to encounter various cultural perspectives and practices and compare them with their own native cultures. This result aligns with the findings of Berti (2021), Sharma (2023), and Peredo-Alarcon (2025), who highlighted the potential of virtual environments to facilitate intercultural communication—as well as with Jauregi et al. (2011), who emphasized the role of cultural differences in fostering communicative exchange. Canto and Ondarra (2017) also found that interaction involving people and cultures fosters the negotiation of meaning and an awareness of cultural similarities and differences.

The findings demonstrate that the cultural experience was not limited to learning facts about other cultures but extended to learning through interaction with them; participants compared, interpreted, and discussed practices and perceptions while communicating. This aligns with Sharifian's (2013) concept of metacultural competence, which emphasizes awareness of multiple cultural perspectives and the ability to negotiate diverse meanings. From this perspective, a multicultural

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environment can offer opportunities to develop flexibility in navigating diversity, rather than merely acquiring knowledge of static cultural norms.

The Cultural Gap as an Obstacle to Communication

However, the findings reveal that cultural difference does not automatically lead to successful interaction. While it can stimulate curiosity, inquiry, and comparison, it may also limit engagement when the learner lacks the cultural knowledge required to understand or address the subject matter. This highlights the dual nature of the cultural gap: it can become an opportunity for learning and interaction when the learner is willing to inquire and interpret, or a barrier to communication when knowledge or the skills to navigate difference are insufficient.

This aligns with the views of Berti (2021) and Peredo-Alarcon (2025) regarding the importance of openness and curiosity, knowledge of the practices of other societies, and the ability to interpret, critically engage with, and relate those practices to one's own culture. Thus, mere exposure to a multicultural environment does not guarantee the exercise of sociocultural competence; rather, it depends on how the learner responds to difference and their ability to transform it into an opportunity for interaction.

The findings add another dimension to this process: the negotiation of cultural meaning. Second language acquisition theories have primarily addressed negotiation from the perspective of managing linguistic difficulties; Krashen (1982) highlighted the importance of comprehensible input, and Long (1996) linked interaction and negotiation to enhancing input comprehensibility, while Swain (1985, 1993, 1995, 1998) emphasized the role of language production in noticing gaps and testing linguistic knowledge. However, the results of the current study indicate that the gap requiring negotiation may also be cultural, stemming from differences in knowledge, perceptions, or socio-cultural practices among interactants.

In such instances, participants employed explanation, inquiry, comparison, and rephrasing to achieve a shared understanding. This finding aligns with Canto and Ondarra (2017), who found that cultural tasks stimulate the negotiation of meaning and intercultural understanding, and with Pasfield-Neofitou et al. (2016), who noted that linguistic, informational, and inferential gaps create opportunities for reflection and practice during communication. Based on the results of this study, the cultural gap serves as an additional source of negotiation when it prompts interactants to interpret and compare cultural meanings and establish common ground.

Non-verbal communication in the virtual environment

The results showed that non-verbal communication was less prominent than other factors; however, it took forms suited to the nature of the digital environment. while certain natural cues, such as facial expressions and body movements, are diminished, alternative digital resources emerge, including avatar movement, spatial distance, emoticons, and textual features, and can be used to express intentions and emotions and to regulate interaction.

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This aligns with Antonijevic (2008), who highlighted the role of spatial distance in SL in conveying intentions and structuring interaction and social relationships, and with Wigham and Chanier (2015), who demonstrated how avatar spatial behavior differs from non-verbal behavior in direct communication. Similarly, Xenakis et al. (2022), argue that virtual environments do not eliminate non-verbal communication but rather reshape it through digital cues that support presence and social interaction.

Consequently, non-verbal communication in virtual environments can be viewed as a reconfiguration of non-verbal resources rather than their absence. This may require learners to grasp new digital norms for interpreting intentions and emotions and managing relationships. However, the limited prominence of this aspect in the study's findings suggests that the non-verbal communication capabilities available within the environment are not necessarily utilized by learners to the same extent; this highlights the importance of distinguishing between the environment's affordances and the learners' actual usage of them.

Conclusion

The study results demonstrate that communication within SL create social and cultural contexts that require learners to understand social norms, navigate the nature of relationships, and engage with diverse cultural perspectives and practices. The findings reveal that the negotiation of meaning in this environment arose not only from linguistic gaps but also from differences in knowledge, expectations, and socio-cultural perceptions among the participants.

In this context, the study highlights the dual nature of the cultural gap: it can serve as a catalyst for interaction and learning by prompting learners to inquire, interpret, compare, and negotiate in order to reach a shared understanding, yet it can also become a barrier to participation when cultural knowledge or the ability to manage difference is limited. Consequently, the results suggest expanding the concept of *negotiation of meaning* in multicultural virtual environments to include the negotiation of social and cultural meanings alongside the bridging of linguistic gaps.

Considering this, the study recommends utilizing virtual environments for language learning through activities that offer learners opportunities to engage with, interpret, and negotiate social and cultural differences, while fostering the openness, flexibility, and cultural awareness essential for communication in multicultural contexts. It also proposes future research to track socio-cultural competence over longer periods and compare interaction in virtual environments with other modes of communication, while paying greater attention to non-verbal communication and how it is employed in these settings.

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