

From Geographic Immersion to Digital Immersion: Rethinking English Language Learning Without Study Abroad

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Abstract

Study abroad has traditionally been regarded as one of the most effective contexts for second-language development, providing learners with extensive target-language exposure, sustained interaction, and contact with culturally situated communicative practices. However, the expansion of digital communication challenges the assumption that meaningful language immersion requires geographical mobility. Learners who remain in their home countries can participate in international communities, engage in virtual exchange, access authentic audiovisual and written materials, and use English for academic, professional, and social purposes. Drawing on research in second-language acquisition, study abroad, computer-mediated communication, telecollaboration, virtual exchange, and learner autonomy, this article argues that immersion is more productively conceptualized as sustained and meaningful engagement with a target language than as physical presence in a particular geographical location. To operationalize this concept, the article proposes a seven-dimensional model of digital immersion encompassing input, interaction, output, feedback, intercultural engagement, identity, and autonomy. The model provides a framework for examining the extent to which digital environments create conditions conducive to sustained language development. At the same time, digital immersion cannot fully reproduce the embodied interaction, spontaneous encounters, and physically situated cultural experiences associated with study abroad. Nevertheless, when deliberately structured, digital environments can provide substantial opportunities for language input, interaction, output, intercultural learning, and learner agency. The article concludes by discussing implications for curriculum design, digital literacy, authentic assessment, and educational accessibility, and considers how digital immersion may reshape the future of English language learning.

Keywords: English language learning, digital immersion, study abroad, computer-mediated communication, virtual exchange, telecollaboration, learner autonomy, intercultural competence, identity, accessibility, feedback, output

1. Introduction

Study abroad has occupied a prominent position in second-language education for several decades. The underlying assumption is straightforward: learners who physically relocate to environments in which the target language is widely used gain access to forms of linguistic exposure and interaction that are difficult to reproduce in conventional classrooms. Study-abroad experiences can place learners in contact with everyday conversations, institutional interactions, culturally situated practices, and diverse speakers of the target language. For this reason, physical mobility has frequently been associated with language development and intercultural learning (Collentine & Freed, 2004; DeKeyser, 2007; Kinginger, 2009). Collentine and Freed's (2004) work on learning context, in particular, brought together research comparing study-abroad and at-home learners across dimensions such as oral fluency, vocabulary, grammatical control, and pronunciation.

Yet the communicative conditions surrounding language learning have changed substantially with the development of digital technologies. The internet has transformed English from a language encountered primarily through geographically bounded communities into one accessible through globally distributed networks. Earlier accounts of English as a global language already identified the internet as a force contributing to this shift (Crystal, 2003; Graddol, 2006); social media, mobile connectivity, online communities, and virtual exchange have subsequently expanded the range of contexts in which English can be encountered and used. Learners can now participate in English-language classes, online communities, professional networks, gaming environments, social media, international projects, and intercultural exchanges without leaving their home countries.

This transformation raises a fundamental conceptual question: Must language immersion be geographical? The

answer depends partly on how immersion itself is defined. If immersion refers specifically to physical relocation into a society in which the target language is widely used, digital environments cannot constitute an identical form of immersion. If, however, immersion is understood more broadly as sustained engagement with meaningful language input and participation in communicative activity, then digital environments can provide important forms of immersion beyond the borders of a target-language country. This broader understanding is consistent with Lave and Wenger's (1991) emphasis on participation in communities of practice, while extending the concept to digitally mediated forms of participation.

This article develops the latter perspective. It does not argue that digital immersion is a replacement for study abroad. Physical mobility provides forms of embodied interaction, spontaneous participation, and culturally situated experience that digital environments cannot fully reproduce. Rather, the article argues that the traditional opposition between being "immersed abroad" and "learning at home" is increasingly inadequate for describing contemporary language-learning experiences. A more productive distinction concerns the different configurations of exposure, interaction, participation, intercultural engagement, and learner agency that particular environments make possible.

The article first examines the relationship between study abroad and second-language development. It then considers computer-mediated communication and virtual exchange as forms of digitally mediated language experience. Building on these strands of research, it proposes a multidimensional framework for understanding digital immersion in terms of input, interaction, output, feedback, intercultural engagement, identity, autonomy, and sustained participation. The framework is intended not to collapse the distinction between physical and digital immersion, but to provide a more precise basis for examining what different learning environments enable learners to do with and through the target language.

2. Study Abroad and the Traditional Concept of Immersion

Throughout this section, immersion refers to naturalistic residence in a target-language environment, rather than to content-based school programs that use the same term (e.g., Canadian French immersion). A longstanding view of study abroad holds that residence in a target-language environment provides particularly favorable conditions for language development. Part of the appeal of study abroad lies in the density of communicative opportunities it can provide: learners may encounter the target language in classrooms as well as in transportation, accommodation, retail environments, workplaces, public institutions, and social relationships. Such encounters expose learners to forms and uses of the language that can be difficult to reproduce through decontextualized classroom activities.

Comparative research, however, has not established that residence abroad reliably produces superior outcomes. Early comparative work treated learning context as a variable whose effects differed by linguistic domain (Collentine & Freed, 2004). Related studies from the same period included intensive domestic immersion alongside classroom and study-abroad conditions (Freed et al., 2004), suggesting that the nature of engagement matters alongside physical location.

Recent syntheses reinforce this point. A systematic review of quasi-experimental studies (Moore et al., 2021) found that gains associated with study abroad vary according to the linguistic outcome, with oral fluency and general proficiency showing the clearest benefits. It also noted that only a small number of studies met its inclusion criteria and that the broader evidence remains inconclusive.

A state-of-the-art review similarly concluded that study-abroad experiences are not equivalent and that research has increasingly examined what learners actually do while abroad (Isabelli-García et al., 2018). Theoretical and critical accounts point in a similar direction. What learners gain may depend partly on the knowledge they bring to the experience (DeKeyser, 2007), while study abroad is also a social experience shaped by learners' identities, relationships, expectations, and participation in local communities (Kinger, 2009).

These findings complicate a purely geographical understanding of immersion. Physical proximity to speakers of a target language creates opportunities for exposure and interaction, but those opportunities do not automatically become learning. Studies of sojourners have documented cases in which learners who spend months abroad while relying heavily on first-language networks and co-national peers (Isabelli-García, 2006; Mitchell et al., 2017; Wilkinson, 1998). Learners from Jordan and Morocco, for example, reported speaking, listening to, and writing in English about as much as they did in Arabic (Dewey et al., 2013), illustrating how residence in a target-language environment does not necessarily make the target language the dominant medium of everyday communication.

Research linking social-network patterns to language outcomes further suggests that differences in participation may matter for development. In a longitudinal study of 41 U.S. learners of Arabic in Jordan, learners' perceived integration into the peer learner group was negatively associated with objective proficiency gains (Paradowski et al., 2024). Among learners of French, the growth of L2-oriented social networks over nine months was associated with reduced use of standard variants, whereas L1-oriented networks were associated with greater use of standard variants (Gautier & Chevrot, 2025). Such findings do not imply that residence abroad does not support language

development; rather, they indicate that the social networks through which learners participate in the host environment can shape the linguistic input, interaction, and practices available to them.

Importantly, meaningful engagement with a target language is not confined to physical immersion abroad. Research on out-of-class and digital learning shows that learners outside English-speaking countries can develop routines and relationships in which English becomes a regular medium of communication (Lai et al., 2015; Sockett, 2014; Sundqvist & Sylvé, 2016). The diversity of such informal digital activity has also been associated with positive outcomes, including speaking skills and productive vocabulary (Lee, 2019). These findings extend the argument beyond study abroad: although geographical location influences the opportunities available to learners, it does not by itself determine whether, how, or to what extent those opportunities are taken up.

Geography is therefore better understood as one condition influencing language exposure than as the defining feature of immersion itself. A more useful account would focus on the quality and extent of learners' actual engagement with the target language, including the quantity and nature of their exposure, the interactional relationships in which language use occurs, and the range of contexts in which the language becomes meaningful and necessary. From this perspective, immersion is not simply a place in which a learner resides but a pattern of sustained engagement with a language across social, communicative, and contextual domains. Such engagement may occur abroad, but it may also be constructed through domestic, digital, and other out-of-class environments.

3. From Exposure to Engagement

Second-language acquisition research has long emphasized the importance of exposure to meaningful language input. Krashen's (1985) input hypothesis placed comprehensible input at the center of his account of acquisition, while subsequent perspectives emphasized additional processes through which input may contribute to learning. Schmidt (1990) emphasized the role of attention and noticing in learning from input, Swain (1985) highlighted the importance of output, and interactionist perspectives stressed communication and the negotiation of meaning (Long, 1996). Taken together, these accounts suggest that exposure creates important conditions for acquisition but does not by itself explain how language is learned; what learners attend to, produce, and do with input also matters.

In applied linguistics, this concern has increasingly been framed in terms of *engagement*: a state of heightened attention and involvement reflected in cognitive, behavioral, social, and affective dimensions (Philp & Duchesne, 2016). Because the construct continues to be defined and measured in varied ways (Hiver et al., 2024), the present study adopts a working definition of engagement as active, purposeful participation in the language, including attention, interaction, use, and reflection.

This distinction between exposure and engagement is particularly relevant to digital environments. The contemporary internet offers learners an enormous quantity of English-language material. Streaming services, podcasts, online newspapers, lectures, audiobooks, websites, and social media provide access to input across registers and genres. Such exposure can contribute to incidental learning: for example, viewing a single full-length television program has been shown to produce incidental vocabulary learning (Peters & Webb, 2018). However, findings of this kind concern what learners can acquire incidentally from particular activities; they do not establish that the mere availability of English leads to broad or sustained language development. Research on informal digital learning suggests that different dimensions of learners' activity may relate to different outcomes. In a study of Korean university students, the quantity of informal digital activity predicted affective variables, whereas the diversity of activities predicted productive outcomes such as speaking and productive vocabulary (Lee, 2019). Studies of out-of-class learning have likewise distinguished the quality of learners' activities from the amount of time they spend engaging with them (Lai et al., 2015). Consider, as an illustration, two learners who encounter the same English-language video. One watches primarily for entertainment. The other watches in order to understand an argument, discusses that argument with others, writes a response, and later uses newly encountered vocabulary in conversation. Although both learners receive exposure to the same material, the nature of their participation differs substantially. The example illustrates how the same source of input can generate different forms of attention, interaction, and language use, and potentially different opportunities for learning. From this perspective, digital immersion is better conceptualized not through screen time alone, but through the quantity, diversity, and quality of learners' participation in English. This is the central argument developed in the remainder of the study, which turns to empirical evidence to examine it.

4. Computer-Mediated Communication and Second-Language Development

Research on computer-mediated communication (CMC) suggests that digital interaction can create meaningful opportunities for second-language use, although its effects vary across contexts and learners. Within a broader conception of digital immersion, CMC is particularly important because it can turn exposure into opportunities for reciprocal language use. Synchronous communication allows learners to interact in real time, whereas asynchronous communication provides greater opportunities for planning, revision, and reflection. A meta-analysis

of 59 studies found a medium-sized advantage for CMC over traditional face-to-face instruction, with larger average effects for asynchronous than synchronous formats. Proficiency level and research setting were also identified as moderating variables (Lin, 2014). A subsequent synthesis of the CMC literature likewise indicates that CMC can support various dimensions of second-language development, although outcomes depend on task design, interactional conditions, and learner characteristics (Lin, 2015). Text-based synchronous interaction has been linked to opportunities for negotiation of meaning (Blake, 2000; Smith, 2003) and to pragmatic development: in a small classroom study, learners who discussed in written chat produced more varied and complex refusal strategies than those who used oral chat or face-to-face discussion (Sykes, 2005).

One potential affordance of digitally mediated communication is that it can increase the frequency with which learners encounter communicative tasks. A learner does not need to wait for the next classroom session to speak or write in English, and language use can become distributed across daily activities, as research on out-of-class and extramural English suggests (Lai et al., 2015; Sundqvist & Sylvén, 2016). CMC can therefore expand the temporal and social opportunities for language use, allowing interaction to become part of learners' ordinary routines rather than remaining confined to scheduled instruction. As the previous section argued, however, frequency of opportunity is not the same as engagement: increased access to communication does not necessarily mean that learners participate actively, interact extensively, or attend closely to the language they encounter.

Digital communication may also reduce some barriers to participation. Learners who are reluctant to speak in a large face-to-face classroom may feel more comfortable

initially participating through written interaction or in smaller online groups. In a four-week study of novice EFL learners, speaking proficiency increased in both text-chat and voice-chat groups, but anxiety decreased only in the text-chat group (Satar & Özdener, 2008). A recent study of EFL college students compared speaking anxiety across cognitive, somatic, and behavioral dimensions in classroom and synchronous online settings and reported potential benefits of online learning for reducing speaking anxiety (Cheng & Sun, 2025). These benefits are not guaranteed. In another study, communication apprehension did not decrease more in the synchronous or asynchronous CMC groups than in the face-to-face control group (Arnold, 2007). Digital communication therefore does not eliminate language anxiety, nor does reduced anxiety necessarily entail greater participation or learning. Rather, it may provide some learners with an alternative, lower-pressure entry point into language use.

The distinction between synchronous and asynchronous communication is therefore relevant to how digital environments can support engagement. Asynchronous communication can give learners additional time to formulate, revise, and reflect on their language, whereas synchronous interaction requires more rapid processing and production. The larger average effect for asynchronous formats in Lin's (2014) meta-analysis is consistent with the potential value of planning time, although differences in tasks, learners, and settings across studies limit how firmly this explanation can be established. The meta-analytic difference should therefore not be interpreted as evidence that asynchronous communication is inherently more effective. Rather, the two modes may support different forms of participation: asynchronous environments may facilitate deliberative and reflective engagement, while synchronous environments can create conditions for spontaneous interaction, negotiation of meaning, and real-time language use. A comprehensive digital immersion environment can therefore incorporate both modes, with the choice of communicative mode matched to learners' proficiency, participation patterns, and the aims of particular tasks.

5. Virtual Exchange and Telecollaboration

A particularly relevant institutional form of digital immersion is virtual exchange, sometimes referred to as telecollaboration. O'Dowd (2018) describes it as the engagement of groups of learners in online intercultural interaction and collaboration with partners from other cultural contexts or geographical locations as part of their educational programs. In this sense, virtual exchange can be understood as a pedagogically organized form of computer-mediated communication in which digital interaction is structured around sustained contact with other learners or speakers. Approaches vary considerably in their organization and pedagogical aims (Dooly & Vinagre, 2022; O'Dowd, 2018). Such projects can provide opportunities for interaction that are difficult to create within a single classroom because participants bring different linguistic and cultural backgrounds, experiences, and perspectives to the interaction.

Research has linked telecollaborative activities to opportunities for language use and intercultural learning (O'Dowd & Dooly, 2020), while systematic reviews have examined evidence on intercultural outcomes (Avgousti, 2018). These outcomes are not automatic, however. Belz's (2003) analysis of a German–American e-mail partnership showed that intercultural competence can develop unevenly and may fail to develop as intended, while research on communication breakdowns in telecollaboration emphasizes the importance of recognizing and working through such difficulties rather than treating them simply as obstacles to successful communication (O'Dowd & Ritter, 2006). Task design is also a recognized factor in shaping the outcomes of telecollaborative exchanges (O'Dowd & Ware, 2009). Thus, as with CMC more broadly, the availability of interaction does not by

itself determine what learners gain from it.

Importantly, virtual exchange moves digital language learning beyond consumption toward socially situated communication. Learners are not merely watching English-language media; they are communicating with other people who have their own perspectives, experiences, and communicative goals. This social dimension is central to the concept of digital immersion developed in this study. Online interaction can create particularly meaningful opportunities for engagement when learners have a communicative purpose that extends beyond demonstrating language knowledge. They may be discussing a project, explaining an opinion, solving a problem, sharing cultural experiences, or developing a relationship. In such cases, language becomes a means of accomplishing something with another person rather than simply the object of an instructional exercise.

A recent 10-week virtual exchange illustrates this form of engagement: learners interacted synchronously and asynchronously with other non-native English speakers from ten countries in order to make friends, share cultural interests, and practice English, and the study examined effects on motivational constructs (Skidmore, 2023). The significance of such activities lies not simply in the additional quantity of English exposure they provide, but in the social and functional purposes that give the language use meaning. A communicative purpose creates a context in which learners must attend to language, interpret others, formulate responses, and use English to achieve an immediate goal. In this respect, virtual exchange provides a particularly clear illustration of the distinction developed earlier between active engagement with language and mere exposure to it.

6. Authenticity in Digital Language Learning

The concept of “authentic language” has traditionally been associated with materials produced for native speakers rather than language learners, although what counts as authentic has long been contested (Gilmore, 2007). Digital environments further complicate this distinction because English is used online across a wide range of linguistic, cultural, and communicative contexts.

English is now used extensively as a global lingua franca among speakers with diverse linguistic backgrounds (Jenkins et al., 2011). This broader use of English also complicates the assumption that authenticity depends on interaction with native speakers or conformity to native-speaker norms. Research on second-language acquisition has questioned the assumption that native speakers are the only legitimate interlocutors for learners or the sole sources of legitimate linguistic norms for learners (Canagarajah, 2007; Firth & Wagner, 1997). Consequently, authentic English communication need not be restricted to interactions between native speakers.

A learner participating in an international academic forum, collaborating with colleagues from different countries, or discussing a shared interest in English may be using the language for communicative purposes that extend beyond language practice itself. The communicative event can be considered authentic in the functional sense adopted here because English serves a meaningful social or practical purpose. A study of adult fans in Russia and Spain illustrates this possibility: participants used English in fan practices such as collaboratively translating fanfiction into English and dubbing English-language episodes into Russian, motivated by a desire to interpret and localize media (Shafirova & Cassany, 2019). This is only one case, and the participants’ use of English was inherently tied to the English-language source material being translated. Even so, it illustrates English functioning as a working resource within a community rather than simply as a school subject.

This perspective is consistent with broader understandings of language as social practice. Lave and Wenger (1991) conceptualized learning as participation in communities of practice, in which newcomers typically begin at the periphery, while Wenger (1998) emphasized the relationships among learning, identity, and participation. Applying these ideas to digital contexts requires care, however, because not every online interaction constitutes a community of practice. Related research on the “digital wilds” examines informal language learning in digital spaces, communities, and networks that exist independently of formal instruction (Sauro & Zourou, 2019), including research on how learners’ identities develop through participation in such spaces (Han & Reinhardt, 2022).

From this perspective, the relevant question is not whether a digital interaction perfectly resembles a conversation in London, New York, Sydney, or another English-speaking location. Nor is authenticity necessarily determined by whether the interlocutor is a native speaker. Rather, the question is whether English is functioning as a meaningful communicative resource and whether the learner is participating actively in that use. An isolated interaction may therefore be authentic without constituting immersion. Digital immersion implies something more sustained: meaningful participation in English across interactions, activities, or communities over time. In this sense, authenticity concerns the function of language within an activity, while immersion concerns the extent and continuity of the learner’s participation in such activities.

7. Input, Interaction, and Output in Digital Immersion

A process-oriented model of digital immersion can be organized around three complementary dimensions of language activity: input, interaction, and output. These processes draw on established strands of second-language acquisition research, including work on input, interaction, and output (Loewen & Sato, 2018). The proposed

contribution is therefore not a new account of second-language acquisition, but an account of how digital environments can bring these established processes together within sustained language-learning activity. The three dimensions are analytically distinct but can operate simultaneously and recursively in digital environments.

7.1 Input

Digital technologies provide learners with extensive access to English-language input. Learners can select materials according to their proficiency levels and interests, increasing the possibility that exposure will be both comprehensible and engaging. Comprehensibility is not guaranteed, however. Analyses of movie scripts suggest that knowledge of the 3,000 most frequent word families, together with proper nouns and marginal words, provides approximately 95% lexical coverage, whereas around 6,000 words families are required for approximately 98% coverage (Webb & Rodgers, 2009).

These figures suggest that substantial portions of naturally occurring media may remain linguistically demanding for less proficient learners. Viewing can nonetheless produce incidental vocabulary learning (Peters & Webb, 2018).

Abundance also creates a new problem: selection. Learners may consume large quantities of content without necessarily developing productive language abilities. In a study of Korean university students, the quantity of informal digital activity predicted confidence and enjoyment, whereas the diversity of activity predicted speaking and productive vocabulary (Lee, 2019). This suggests that digital immersion is better understood in terms of purposeful and varied engagement than unrestricted consumption. The relevant issue is therefore not simply how much English learners encounter, but what kinds of input they select, how they engage with it, and how that input connects to other forms of language activity.

7.2 Interaction

Interaction provides opportunities for learners to negotiate meaning and respond to unpredictable communicative demands. Long's (1996) interaction hypothesis highlights the role of interaction in making linguistic input meaningful and potentially facilitating acquisition. Subsequent research has examined how factors such as interlocutor characteristics, peer interaction, and proficiency shape its effects (Loewen & Sato, 2018). The distinctive feature of interaction is its reciprocal and contingent nature: learners must interpret others' contributions and formulate responses that take those contributions into account. Online interaction can occur through video conferencing, voice communication, messaging, discussion boards, collaborative documents, and other platforms. The diversity of formats allows learners to encounter different communicative demands and, as discussed in the earlier sections on computer-mediated communication and virtual exchange, the effects of these formats vary with task design, learner characteristics, and interactional conditions.

Interaction also connects the three dimensions of digital immersion. A learner who participates in an online conversation does not simply receive input or produce output independently; each participant's contribution becomes potential input for the other, while the need to respond generates opportunities for further output. Interaction can therefore create a recursive cycle in which learners encounter language, interpret it, respond to it, and encounter new language as a consequence of that response.

7.3 Output

Swain's (1985) output hypothesis emphasizes the role of language production in pushing learners to process language more fully. Swain (1995) later described several functions of output, including noticing gaps in one's linguistic knowledge, testing hypotheses about the language, and reflecting on it, all of which can contribute to greater control over existing knowledge. In one study, learners who completed a task requiring them to produce English relative clauses were more likely to notice and learn the target structures than who completed a comprehension task with visually enhanced input (Izumi, 2002).

Digital environments can create abundant opportunities for output. Learners can write posts, record presentations, produce videos, participate in discussions, or collaborate on documents. Opportunity does not guarantee benefit, however. Output is particularly valuable when learners must formulate their own meanings for a communicative purpose and when tasks require sufficient precision or complexity to reveal gaps in their existing linguistic resources. Feedback and subsequent interaction can then provide further input that allows learners to modify their language.

The combination of input, interaction, and output is therefore proposed here as central to meaningful digital immersion. These processes should not be understood as a linear sequence. In digitally mediated activity, input, interaction, and output can operate recursively: interaction generates new input, output prompts feedback and negotiation, and subsequent input can shape later production. Digital immersion is thus not simply a matter of encountering large quantities of English, but of sustained participation in cycles of receiving, interpreting, using, and responding to language.

8. Digital Immersion and Learner Anxiety

A further consideration is the relationship between digital communication and language anxiety. Foreign-language anxiety has been widely investigated in language education. Horwitz et al. (1986) conceptualized foreign-language anxiety as a distinct form of anxiety associated with communication apprehension, test anxiety, and fear of negative evaluation, while emphasizing that it is not simply the sum of these components; Horwitz (2017) later reiterated this distinction. A meta-analysis of 97 reports found a mean correlation of $r = -.36$ between second-language anxiety and language achievement (Teimouri et al., 2019). This association highlights the relevance of anxiety to language-learning outcomes, although correlational evidence does not by itself establish a causal direction.

Digital environments may provide alternative routes to participation. Written communication can allow learners additional processing time and may reduce some of the immediate pressure associated with spontaneous oral production. In a four-week study of novice EFL learners, anxiety decreased in a text-chat group but remained unchanged in a voice-chat group (Satar & Özdenir, 2008), while a recent study of EFL college students comparing speaking anxiety across classroom and synchronous online settings reported possible benefits associated with online learning (Cheng & Sun, 2025).

Web-based tools, including those supported by automatic speech recognition, have likewise been investigated as potentially lower-pressure contexts for speaking practice (Bashori et al., 2022).

The evidence is not uniform, however. In one experiment, communication apprehension did not decrease more in the synchronous or asynchronous computer-mediated groups than in the face-to-face control group (Arnold, 2007), and small online groups do not necessarily reduce participation pressure. In a mixed-methods study of 307 learners at a UK distance university, breakout rooms were among the reported triggers of speaking anxiety (Bárkányi & Brash, 2025). Digital environments can therefore introduce sources of anxiety as well as reduce some forms of it. The same study found that technology itself could be anxiety-inducing, with camera identified as one example (Bárkányi & Brash, 2025).

Learners may also experience concerns associated with being observed, recorded, corrected, or evaluated by others, or with being misunderstood. These technology- and platform-related pressures are distinct from foreign-language anxiety as narrowly defined, but they can nevertheless influence whether and how learners participate in digitally mediated language activities.

Digital immersion should therefore not be characterized as inherently anxiety-free. Its potential advantage lies partly in the flexibility it affords participation. In Bárkányi and Brash's (2025) study, learners' responses ranged from avoiding online tutorials entirely to participating fully through the chat, illustrating that digital settings can offer multiple routes into participation. Whether learners subsequently move from less demanding forms of participation toward more spontaneous communication remains an open question. The same flexibility that may allow a gradual entry into language use can also permit sustained avoidance. For this reason, the relationship between digital immersion and anxiety is likely to depend not only on the technology itself but also on task design, scaffolding, opportunities for low-stakes participation, and support for moving toward more active engagement.

9. Intercultural Competence Without Physical Mobility

A longstanding argument for studying abroad concerns intercultural learning. Physical relocation can expose learners to social practices and perspectives that differ from those of their home communities. Digital communication can also facilitate intercultural encounters, although in a different way. Virtual exchange, international online communities, and collaborative projects allow learners to communicate with people whose linguistic and cultural experiences differ from their own. Such encounters can create opportunities for learners to question assumptions, negotiate differences, and develop greater awareness of alternative perspectives (O'Dowd, 2018).

Evidence from virtual exchange research suggests that these opportunities can contribute to the development of intercultural competence, although the effects are not uniform. In a quasi-experimental study of Collaborative Online International Learning (COIL), Hackett et al. (2023) compared Dutch and US undergraduate students who participated in a COIL exchange with non-participating control groups. The US experimental group demonstrated a significantly greater increase in self-reported intercultural competence than the US control group, whereas the same effect was not observed among the Dutch students. The authors suggest that the absence of a significant difference for the Dutch group may have been related to substantial international contact already experienced by students in the control condition. Such findings illustrate that the effects of digital intercultural exchange may depend partly on learners' prior experiences and the conditions against which change is measured (Hackett et al., 2023).

Earlier telecollaboration research likewise indicates that intercultural learning is not an automatic consequence of international online contact. Belz (2002) emphasizes the importance of the social dimensions of telecollaborative language learning, showing how institutional expectations, participant roles, and patterns of interaction can shape

learners' experiences. Belz (2003) further demonstrates that the linguistic practices through which participants negotiate meaning are closely connected to the development of intercultural competence. From this perspective, intercultural learning emerges through interaction and the interpretation of difference rather than simply from the presence of international partners.

The possibility of misunderstanding is particularly important in digital environments. Ware (2005), in a qualitative study of a German-American telecollaboration, documented instances of "missed communication" in which differences in institutional expectations, timing, and levels of investment contributed to limited or frustrating interaction. Ware and Kramsch (2005) similarly argue that telecollaborative exchanges can produce an "assumption of similarity," whereby learners perceive their partners as fundamentally similar despite differences in linguistic and cultural backgrounds. Rather than automatically producing greater intercultural awareness, therefore, digital interaction can sometimes leave cultural assumptions unexamined. These findings reinforce the importance of the social and institutional conditions surrounding an exchange, rather than treating technological contact itself as sufficient for intercultural development (Belz, 2002; Ware, 2005; Ware & Kramsch, 2005).

The availability and suitability of international partners can also constrain opportunities for digital intercultural learning.

Telecollaboration depends on the availability of compatible partners, and learners of less widely studied languages may encounter particular difficulty finding participants who are learning their language (Wach et al., 2025). This reflects a broader structural constraint on virtual exchange participation, one that intersects with unequal access to partnerships across regions and languages (O'Dowd, 2025).

These findings suggest a useful distinction between intercultural contact, intercultural interaction, and intercultural learning. Contact provides an opportunity to encounter linguistic and cultural differences, but interaction requires participants to engage with one another, and learning requires a process through which experiences are interpreted, questioned, or reflected upon. Consequently, digital immersion should not be conceptualized as inherently intercultural simply because it connects learners with people from other countries. International communication may remain superficial, reproduce existing assumptions, or fail to develop into sustained participation.

For this reason, guided reflection can play an important role in digitally mediated intercultural learning. Learners can be encouraged to examine misunderstandings, compare perspectives, analyze communication strategies, and distinguish individual behavior from assumptions about national or cultural groups. Such activities can help transform intercultural encounters from opportunities for contact into opportunities for learning. This is consistent with the broader telecollaboration literature, which emphasizes the importance of task design, interactional conditions, and pedagogical support in shaping the outcomes of online intercultural exchange (Belz, 2002, 2003; O'Dowd, 2018).

Within a broader model of digital immersion, intercultural learning can therefore be understood as a potential outcome of sustained and meaningful participation rather than as an automatic property of digital communication. Digital environments can expand access to people, communities, and perspectives that learners might not otherwise encounter, but the educational value of these encounters depends on how learners participate in them and whether they are given opportunities to interpret and reflect on their experiences. In this sense, digital immersion can create an ecology of intercultural opportunities, while the development of intercultural competence depends on the quality, continuity, and pedagogical conditions of learners' participation.

10. Identity and the Development of an English-Speaking Self

Language learning involves more than the accumulation of linguistic knowledge; it also involves gaining the ability to participate in social practices in which the language has value. Norton (2013) conceptualizes this process through identity and investment: learners' investment in a language is connected to the identities they can claim through using it and to the communities in which those identities become possible. Darwin and Norton (2015) extend this perspective by locating investment at the intersection of identity, capital, and ideology. In this model, access to a language does not mean that all learners have equal opportunities to participate, to be recognized as legitimate users, or to convert linguistic resources into valued forms of social participation. Digital environments are therefore relevant not simply because they increase access to English, but because they can alter the social contexts in which learners use English and the identities available to them.

Digital communities can provide social roles through which learners can participate in English for purposes extending beyond language practice. A learner may contribute to an English-language forum, collaborate with international peers, volunteer online, produce content, participate in a professional network, or join a community organized around a shared interest. In such settings, English functions as a resource for accomplishing something else, while participation simultaneously positions the learner socially. The significance of these environments is therefore partly a question of what learners are able to become through using English, not only how much English they encounter.

Lam's (2004) case study illustrates this distinction particularly well. Two Chinese immigrant teenagers in the United States participated in a bilingual English-Cantonese chat room in which they developed a mixed-code variety of English associated with a collective identity distinct from both monolingual English-speaking and Cantonese-speaking categories. The online community consequently provided a space in which they could participate as competent English users in ways that were less available to them at school. The significance of the chat room was thus not reducible to its provision of additional English input. It provided a social context in which particular forms of English use and a particular learner identity could acquire meaning.

Fong et al. (2016) further demonstrate that such identities are not simply chosen by learners. In their analysis of ESOL chat-room interactions, participants positioned one another as more or less competent and as more or less of a "learner," and these positions influenced how learners subsequently took up or resisted those identities. Digital participation can therefore create opportunities for identity development while simultaneously imposing constraints on how participants are recognized by others. The community matters because identity is negotiated within interaction: the same digital environment may support a learner's movement toward greater participation in one interaction while reinforcing a peripheral or learner-only position in another.

This point helps clarify the relationship between access and identity. Access to English provides a necessary condition for digital participation, but access alone does not determine what participation means for the learner. A learner can read English-language posts, watch English-language videos, or enter an English-speaking online community

without necessarily developing or being recognized as having a meaningful social position within it. Conversely, a learner who is given a recognizable role, such as contributor, collaborator, creator, or community member, may have reasons to use English that are not reducible to language practice. What matters, then, is not simply whether English is available but whether learners can participate in practices in which their use of English has social consequences and in which they can be recognized as legitimate participants.

Darvin and Norton's (2015) emphasis on capital and ideology makes this distinction especially important. Digital spaces may appear open because geographical distance and certain conventional institutional barriers are reduced, but participation is not necessarily equally available to everyone. Linguistic resources, access to technology, social networks, platform norms, and dominant assumptions about what counts as legitimate English can affect whose contributions receive recognition and whose identities are treated as credible. Digital immersion should therefore not be understood as an inherently liberating environment in which access automatically produces greater agency. The possibilities created by a digital community are shaped by the social values and power relations operating within that community.

The transition from language learner to English user can consequently be understood not as a fixed developmental stage but as a change in the learner's relationship to participation. Sustained involvement in meaningful activities may allow learners to experience English less as an object being studied and more as a resource through which they accomplish social purposes. At the same time, this transition depends on whether communities recognize learners as legitimate participants and whether learners have sufficient access to the social and cultural resources needed to participate. Digital immersion is therefore potentially significant not because it guarantees identity development, but because it can create additional spaces in which identities as English users can be negotiated, enacted, and recognized.

11. Learner Autonomy and the Construction of Personal Language Environments

Digital immersion also increases the importance of learner autonomy. Benson (2011) argues that autonomy involves learners taking control over aspects of their learning rather than simply following externally prescribed instruction. Digital technologies expand the range of choices available to learners: the materials they read and watch, whom they communicate with, which topics they explore, and how frequently and in what ways they practice. Sockett and Toffoli (2012) conceptualize autonomous engagement with online communities as a dynamic process rather than a fixed learner trait, suggesting that patterns of autonomy emerge and change over time through the accumulation of everyday choices and interactions. Lai and Gu (2011) similarly found, in a study of self-regulated out-of-class technology use, that learners who applied metacognitive strategies such as planning, monitoring, and evaluating their use of digital resources made more productive use of those resources than learners who used them without such regulation. Autonomy in digital learning is therefore not simply a matter of having access to choices; it involves developing the capacity to regulate those choices over time.

This freedom also creates a pedagogical challenge. Choice without sufficient direction can lead to uneven patterns of engagement. Survey evidence is consistent with this concern: in a study of 143 EFL students, entertainment-oriented and receptive activities, such as watching video clips and listening to music, were among the most common forms of online English engagement, whereas more active uses such as writing and dedicated language-learning applications were less frequent (Knežević & Topalov, 2025). This finding should not be generalized

beyond the particular sample and context, but it illustrates a potential imbalance between receptive engagement with English and active language use. Lee (2019), in a study of Korean university students' informal digital learning, found that the quantity of digital activity was associated with affective outcomes such as confidence and enjoyment, whereas diversity of activity, and particularly engagement in productive activities such as speaking and writing, was associated with productive outcomes including speaking ability, productive vocabulary, and standardized test scores. These correlational findings are consistent with the possibility that productive development depends not simply on how much English learners encounter online, but on whether their digital activity includes opportunities to produce language.

This distinction is important for the concept of digital immersion. A learner may spend substantial amounts of time-consuming English-language content without speaking or writing, or may repeatedly select familiar activities that provide little opportunity to develop existing abilities further. The problem is therefore not autonomy itself but the possibility that unrestricted choice can produce stable patterns of comfortable repetition. From a dynamic-systems perspective, small choices can accumulate into recurring routines: a learner who repeatedly selects entertaining receptive activities may gradually construct a different pattern of digital engagement from a learner who combines those activities with speaking, writing, interaction, and reflection (Sockett & Toffoli, 2012). Autonomy consequently has a temporal dimension: what matters is not only the choices learners make at a particular moment but the routines those choices create over time.

Effective digital immersion therefore may require a balance between autonomy and structure. Learners need enough freedom to pursue meaningful interests while also developing and maintaining routines that provide opportunities for exposure, interaction, output, feedback, and reflection. The pedagogical task is not to maximize learner choice for its own sake, but to help learners become capable of structuring and revising their own choices. For example, a learner might combine high-interest receptive content with deliberate opportunities for speaking or writing, monitor which activities are becoming repetitive, and adjust the balance when particular skills receive little attention. In this sense, autonomy does not mean learning without structure. It means progressively acquiring greater control over the structures through which one's own learning takes place.

12. The Accessibility Argument

Study abroad can be financially, geographically, academically, or personally difficult or impractical for many learners. International tuition fees, accommodation, transportation, visa requirements, employment responsibilities, and family obligations can all constrain physical mobility. Research has identified socioeconomic disparities in participation in study abroad across multiple national contexts, including the United States, several European countries, and Japan, with students from more advantaged educational and financial backgrounds generally having greater access to international mobility opportunities (Salisbury et al., 2009, as cited in Entrich & Fujihara, 2023). The financial burden extends beyond program fees. Research on underrepresented students identifies forgone employment income, family caregiving responsibilities, and uncertainty about when financial aid becomes available relative to when expenses are due as compounding barriers, even when formal financial support exists.

Digital immersion can reduce some of these barriers by allowing learners to participate in international communication without relocating. For example, a learner might participate in a virtual exchange with students in another country, communicate with international peers through an online community, or engage in collaborative digital projects in English from home. Such opportunities can also offer greater scheduling flexibility than physical mobility, which may be particularly significant for learners balancing study with employment or family responsibilities. This flexibility is especially relevant in contexts where opportunities to use English beyond the classroom are limited.

However, digital immersion does not eliminate inequality. Access to reliable internet connections, suitable devices, quiet learning spaces, digital literacy, and educational resources remains uneven. Research on the digital divide distinguishes among a first-level divide in access to devices and connectivity, a second-level divide in the skills and practices needed to use technology effectively, and a third-level divide in the outcomes and benefits that users derive from technology (Warschauer & Matuchniak, 2010). This framework highlights why access to technology alone does not guarantee meaningful educational benefit. Lembani et al. (2019), for example, found substantial differences in digital access between urban and rural students participating in the same distance-education context in South Africa. Their findings illustrate the limitations of assuming that a shared online curriculum necessarily produces shared opportunity. Similarly, evidence from EFL learners in an under-resourced context indicates that personal device ownership does not necessarily translate into unrestricted access to computer facilities or digital learning materials (Yousofi et al., 2025). Technological provision is therefore a necessary but not sufficient condition for meaningful digital participation.

There is also a social dimension to access. Learners do not automatically gain entry into international communities simply because digital communication is technically available. Participation in virtual exchange, online communities, or other forms of digitally mediated interaction may depend on awareness of available opportunities,

confidence in entering unfamiliar social spaces, relevant digital and communicative skills, and the availability of willing interaction partners. Digital immersion can consequently reproduce familiar patterns of advantage in a new setting: learners who already have stronger technological skills, greater confidence, better connectivity, or wider social networks may be better positioned to convert digital opportunities into sustained participation.

Digital immersion should therefore be understood as a means of expanding access rather than as a complete solution to educational inequality. Its significance lies partly in reducing the geographical and logistical barriers associated with physical mobility, while other forms of inequality remain relevant. The barriers are not necessarily removed but transformed: where study abroad makes physical mobility a central constraint, digital immersion can shift attention toward connectivity, digital competence, social networks, and the ability to participate meaningfully in online communities. The relevant question is therefore not simply whether digital immersion is more accessible than study abroad, but which barriers it reduces, which barriers remain, and who is positioned to benefit from the opportunities it creates.

These inequalities may be particularly consequential in under-resourced and infrastructurally constrained settings, where the conditions required for sustained digital participation cannot be assumed. Broadband or mobile connectivity may be unreliable, intermittent, or unaffordable; electricity supply may be unstable; devices may need to be shared among family members; and learners may have limited access to suitable spaces for extended study. In such contexts, the distinction between nominal access and meaningful access becomes especially important. A learner may technically have access to a smartphone or occasional internet connectivity while still being unable to participate consistently in synchronous interaction, access bandwidth-intensive materials, complete extended digital tasks, or maintain the continuity required for sustained immersion.

Infrastructure also interacts with other forms of inequality. Limited connectivity may restrict not only the amount of English-language input available to learners but also their opportunities for interaction, output, feedback, intercultural engagement, and autonomous participation. Consequently, infrastructural constraints can affect several dimensions of digital immersion simultaneously rather than constituting a separate problem of technological access. This is particularly important when applying the seven-dimension framework across different educational contexts: the apparent absence of particular forms of digital participation may reflect infrastructural limitations rather than learners' preferences, motivation, or autonomy. Empirical research should therefore document the material conditions under which digital immersion occurs, including connectivity, device availability and sharing, cost, electricity reliability, and access to appropriate learning spaces and digital resources.

From this perspective, digital immersion should not be evaluated according to a universal assumption that learners have comparable technological conditions among learners. Its accessibility is relational and context-dependent. In well-resourced settings, digital immersion may provide extensive and continuous opportunities for participation, whereas in under-resourced settings participation may be intermittent, device-dependent, or constrained by infrastructure. Recognizing these differences is essential if digital immersion is to be presented as an expansion of educational opportunity rather than as a technology-neutral solution to inequality.

13. What Digital Immersion Cannot Replace

The case for digital immersion should not obscure what physical mobility makes possible. Study abroad places learners within the physical and social environments in which another language is used. They navigate unfamiliar streets and institutions, interpret local conventions, and encounter language as part of particular places and everyday situations. Kinginger (2013) accordingly describes language learning during study abroad as a dialogic and situated process that unfolds through intercultural experience and carries subjective significance for learners, rather than as a linguistic skill acquired simply by virtue of being in another country. In this sense, study abroad is not valuable merely because it moves learners geographically; its distinctive potential lies in the forms of participation that physical relocation can make available.

Comparative research supports a more specific account of this potential. Across several comparative studies, learners who studied abroad have generally shown greater gains in oral fluency and vocabulary than comparable learners who remained in domestic instructional settings (DeKeyser, 1991; Segalowitz & Freed, 2004), although the size and consistency of the advantage vary by outcome. The pattern is not uniform across linguistic domains. Gains in grammatical or morphosyntactic development have generally not been superior among study-abroad learners, and Freed, Segalowitz, and Dewey (2004) found that a domestic intensive-immersion program produced larger fluency gains than the corresponding study-abroad group. These findings matter because they suggest that the advantages associated with physical mobility are not global. They appear particularly evident in areas such as fluency and incidental vocabulary, which may benefit from the density, variety, and unpredictability of spontaneous communicative encounters. Those features present a particular challenge for digital immersion: online learners can obtain extensive and sustained contact with English, but digitally mediated participation does not necessarily place them within the continual stream of unplanned encounters that a physical environment can generate.

Spontaneity is therefore an important dimension of the comparison. In a physically immersive setting, a learner may have to respond to a neighbor, ask a question in a shop, interpret an announcement, negotiate a misunderstanding with a colleague, or exchange a few unexpected words with a stranger. Such encounters do not necessarily arise because the learner has deliberately selected a language-learning activity. They emerge from participation in the surrounding environment. Online spaces can also produce unexpected interaction, particularly in gaming communities, social platforms, discussion forums, and other open-ended environments, but participation is more often mediated by decisions about which spaces to enter, which people to interact with, and when to participate. Digital immersion can therefore reproduce some forms of spontaneous communication while altering the conditions under which spontaneity occurs.

Physical mobility also exposes learners to environmental and embodied information that digital communication only partially conveys. In face-to-face interaction, facial expression, gesture, physical orientation, movement, spatial relationships, and the surrounding social environment contribute to the interpretation of meaning. Video can transmit some of these cues, but the camera limits the portion of the environment that is visible, while text-based interaction removes most visual and physical information altogether. Participants consequently rely more heavily on other semiotic resources, including wording, punctuation, emoji, response timing, and the ways in which messages are edited and presented. The difference is therefore not simply that face-to-face communication is “rich” while digital communication is “limited.” Rather, the two settings distribute communicative information differently: physical interaction integrates language with an immediately present material and embodied environment, whereas digital interaction often requires participants to construct interpersonal meaning through a narrower or differently organized set of available cues.

This distinction also clarifies the relationship between study abroad and digital immersion. Physical mobility should not be treated as a universally superior form of language learning, just as digital immersion should not be treated as a complete substitute for it. The two provide different ecologies of participation. Study abroad can offer place-based, embodied, and unplanned encounters that are difficult to reproduce online, while digital environments can provide forms of sustained, geographically distributed interaction that physical mobility cannot easily make available to everyone. Digital immersion is therefore best understood as complementary to geographic immersion: it can extend and transform opportunities for language use without reproducing every condition created by physical relocation. The relevant question is not whether digital immersion can replicate study abroad in its entirety, but which opportunities associated with physical immersion can be reproduced or extended digitally, which are transformed in the process, and which remain distinctive to participation in another physical environment.

14. Artificial Intelligence and the Future of Digital Immersion

Recent developments in artificial intelligence have added another layer to digitally mediated language learning. AI-based tools can provide conversational practice, generate personalized prompts, explain vocabulary and grammar, simulate communicative situations, and provide feedback on writing. Recent meta-analytic evidence suggests moderate but variable benefits. Lyu (2025), pooling 61 individual studies, reported an overall effect of chatbot use on language learning of $g = 0.527$, while Wang, Cheung, Neitzel, and Chai (2025), analyzing 70 effect sizes from 28 studies, reported a comparable positive effect of chatbot-supported language learning performance relative to non-chatbot conditions ($g = 0.484$). Taken together, these findings provide evidence of positive effects at the aggregate level, but they should not be interpreted as establishing that chatbots consistently improve second-language learning.

In Lyu’s analysis, the effect specifically associated with second-language learning, rather than first-language learning, was not statistically significant. The emerging evidence is therefore better characterized as showing moderate and variable benefits than as establishing a uniform “chatbots help” effect across language-learning contexts and outcomes. More targeted studies have identified effects in specific domains: Fathi et al. (2024), for example, found increased willingness to communicate in AI-mediated speaking tasks, while systematic reviews of chatbot research published between 2020 and 2024 have reported benefits in areas including speaking fluency, writing quality, and learner motivation.

One important contribution of AI is its capacity to increase opportunities for practice when human interlocutors are not readily available. Learners can repeat conversational tasks, experiment with alternative expressions, ask for explanations, and obtain immediate responses without having to coordinate with another person. This can be particularly useful for learners who need additional preparation before participating in human interaction. However, the same research that identifies benefits also documents important limitations. Chatbots can struggle with culturally embedded or highly nuanced language, produce generic or repetitive feedback, and misinterpret contextual information or interpersonal intent. These limitations matter most when a task requires empathy, creativity, culturally situated interpretation, or negotiation of meanings that emerge during interaction rather than being specified in advance.

AI-mediated interaction should therefore not be treated as simply equivalent to communication with a human

interlocutor. This does not mean that AI interaction is necessarily inauthentic: a learner may have a genuine communicative purpose when using an AI system to rehearse a conversation, test an expression, or solve a communicative problem. The difference concerns the nature of the social relationship. Human interlocutors bring their own experiences, identities, expectations, emotions, and intentions to an encounter. Their responses can be unexpected and can require the learner to interpret another person's perspective, repair misunderstanding, modify an utterance, or negotiate meaning in real time. An AI system can simulate some aspects of these interactional conditions and provide useful rehearsal, but the learner is still responding to generated system outputs rather than participating in a reciprocal human relationship. Simulation can therefore prepare learners for human communication without constituting the same form of social participation.

AI is consequently best understood as one component of a broader digital-immersion ecology rather than as a replacement for human interaction. Its particular value may lie in increasing the quantity and flexibility of preparation and practice: learners can rehearse conversations, explore vocabulary, test alternative formulations, receive feedback on writing, and obtain explanations on demand before bringing that developing language into interactions with other people. Human communication, authentic media, reading, writing, and participation in communities provide complementary forms of social, contextual, and intercultural experience. The emerging model is therefore not a choice between human and artificial immersion, but an integrated ecology in which AI can expand opportunities for language practice while human participation remains central to the interpersonal and social dimensions of language use.

15. A Framework for Digital Immersion

Based on the preceding discussion, digital immersion can be conceptualized through seven interconnected dimensions: input, interaction, output, feedback, intercultural engagement, identity, and autonomy. These dimensions draw on established strands of second-language acquisition research, but their integration provides a framework for describing digital immersion as sustained participation rather than mere exposure to technology. The dimensions are not intended as seven sequential stages or equally weighted variables. Rather, the first four describe core processes through which learners encounter, use, and develop language; intercultural engagement and identity capture important social dimensions of participation; and autonomy concerns learners' capacity to regulate and sustain their engagement over time.

Dimension	Central question	Examples	Theoretical grounding
Input	How much meaningful English does the learner encounter?	Podcasts, films, books, lectures	Krashen's (1985) comprehensible input hypothesis, alongside more recent work on the quantity and diversity of informal digital input (Lee, 2019; see Section 11)
Interaction	How frequently does the learner communicate with others?	Video calls, forums, messaging	Long's (1996) interaction hypothesis, which emphasizes negotiation of meaning during interaction as a condition supporting acquisition
Output	How often does the learner produce English?	Essays, presentations, recordings	Swain's (1985, 1995) output hypothesis, which proposes that production can prompt learners to notice gaps in their developing linguistic knowledge and test hypotheses about language use
Feedback	Does the learner recognize and address recurring problems?	Teacher feedback, peer review, interlocutor responses, AI feedback	Corrective-feedback research, including Lyster and Ranta's (1997) typology of feedback types and their differential relationship to

			learner uptake
Intercultural engagement	Does the learner encounter diverse perspectives?	Virtual exchange, international communities	Research on virtual exchange and intercultural learning, including O'Dowd (2018) and the evidence reviewed in Section 9 concerning its conditional rather than automatic intercultural benefits
Identity	Does English function as a medium for participation?	Professional networks, creative communities, online groups	Norton (2013) and Darwin and Norton (2015), particularly their work on identity, investment, capital, and ideology; see Section 10
Autonomy	Can the learner sustain the environment independently?	Self-directed routines and goals	Benson's (2011) account of learner autonomy and Sockett and Toffoli's (2012) dynamic-systems account; see Section 11

The framework also clarifies why digital access alone cannot be equated with digital immersion. Across the literature reviewed above, beneficial outcomes rarely follow from technological access in isolation. Rather, access becomes educationally consequential when it is accompanied by forms of participation, regulation, and social engagement that give learners reasons to use English. For example, the effects of virtual exchange depend partly on how activities are facilitated (Hackett et al., 2023), active engagement appears particularly important for productive language outcomes (Lee, 2019), and metacognitive regulation affects how learners make use of digital resources (Lai & Gu, 2011). The seven dimensions therefore identify different aspects of the participation that can turn technological opportunity into a sustained language-learning environment.

The first four dimensions, input, interaction, output, and feedback, should in particular be understood as recursive rather than sequential processes. Digital immersion does not necessarily proceed from input to interaction to output and finally to feedback. Instead, the processes can continually generate conditions for one another. Input may provide linguistic resources for subsequent interaction; interaction can make particular features of input more salient; output can reveal gaps in a learner's ability to express a meaning; and feedback can prompt reflection, modification, and further output. A learner might, for example, encounter an unfamiliar expression in a podcast, attempt to use it in an online conversation, receive an unexpected response indicating that the expression was unclear or inappropriate, and subsequently modify its use. The resulting learning process is therefore better represented as a cycle of noticing, use, response, and adjustment than as a fixed sequence.

The remaining three dimensions help explain the social and regulatory conditions under which these processes are sustained and interpreted. Intercultural engagement matters because interaction with people who have different perspectives can require learners to interpret meanings beyond the linguistic form of an utterance; however, such encounters do not automatically produce intercultural learning (see Section 9). Identity matters because access to an online community does not by itself establish a meaningful position within that community. As discussed in Section 10, learners' opportunities to participate can be shaped by how they are positioned by others and by the value attached to particular forms of English use. Autonomy matters because digital environments place many decisions in learners' hands: what to engage with, how frequently to participate, whether to seek interaction, and how to respond when an activity becomes difficult. As discussed in Section 11, sustained immersion therefore depends partly on learners' ability to establish, monitor, and revise patterns of engagement.

The dimensions are consequently interconnected rather than independent levers. A learner may encounter abundant English while producing very little language, as suggested by the distinction between receptive and productive digital activity in Lee (2019). A learner may also participate frequently in online interaction without necessarily resolving misunderstandings or developing shared understanding; Ware's (2005) analysis of "missed" communication illustrates how digital contact can fail to produce the intended communicative outcome. Conversely, strong opportunities for interaction and feedback may be difficult to sustain when learners lack autonomy, or when they do not perceive themselves as legitimate participants in the communities in which English is being used.

The framework therefore does not claim that all seven dimensions must be present to the same degree in every

digital activity. A learner can experience substantial input without immediate interaction, or engage in meaningful interaction without an explicitly intercultural purpose. Instead, digital immersion becomes more substantial when multiple dimensions reinforce one another across activities and over time. The framework is consequently best understood as a conceptual heuristic rather than a validated measurement scale: its purpose is to identify the different forms of participation and conditions that distinguish sustained digital immersion from simple access to English-language technology. Digital immersion is therefore not a property of a particular technology or platform, but a pattern of participation that emerges through the interaction of linguistic, social, intercultural, and regulatory dimensions.

For empirical research, the seven dimensions can be operationalized using a combination of self-report measures, activity logs, digital trace data, observations of online interaction, learner-produced language, and qualitative evidence. The purpose of such operationalization would not be to reduce digital immersion to a single score, but to identify observable indicators through which the different forms of participation represented by the framework can be investigated empirically. For example, input could be assessed in terms of the quantity, frequency, and diversity of English-language exposure; interaction could be examined through the frequency, duration, and type of communication with other users; and output could be assessed through the amount, variety, and communicative purpose of learner-produced English. Feedback could be examined in terms of its frequency and type, as well as evidence that learners notice and respond to it. Intercultural engagement could be investigated through participation in activities involving diverse linguistic or cultural perspectives and through learners' reflections on those encounters. Identity could be explored through how learners position themselves as English users and participants in English-mediated communities, while autonomy could be examined through their capacity to establish, monitor, and sustain patterns of digital engagement over time.

These indicators should be treated as possible empirical entry points rather than as fixed or validated measures. Different dimensions may require different forms of evidence, and no single indicator is likely to capture the full complexity of digital immersion. A mixed-methods approach may therefore be particularly appropriate because quantitative indicators can document the frequency or distribution of participation, while qualitative evidence can illuminate how learners experience, interpret, and sustain that participation. Future research can build on this framework by developing and validating measures that examine the relationships among the seven dimensions and by testing whether particular configurations of participation are associated with different linguistic, intercultural, identity-related, or autonomy outcomes.

16. Implications for Language Education

The shift toward digital immersion has several implications for English language teaching. The central issue is how institutions and teachers can organize digital environments so that access to English develops into sustained opportunities for communication, feedback, reflection, and participation.

First, institutions should move beyond treating digital technology as merely a supplementary source of exercises. Online environments can become spaces for genuine communication when digital interaction is connected to meaningful curricular purposes. Lewis and O'Dowd (2016) distinguish three levels at which virtual exchange can be incorporated into educational provision: classroom-independent, classroom-integrated, and fully institution-integrated. Their framework is important because it places virtual exchange on a continuum of curricular embeddedness rather than treating it as an optional activity running alongside "real" instruction. The more deeply exchange is integrated into the curriculum and institutional structure, the greater its potential to function as a sustained component of language learning rather than as an isolated technological supplement.

Second, curricula can incorporate virtual exchange and international collaboration. Learners can work with peers from other countries on projects that require meaningful English communication and sustained interaction. Such integration is not without practical difficulty. O'Dowd's (2018) review identifies recurring obstacles including learners' uneven access to technology, differences in teachers' digital competence, and the time required to coordinate across institutions and time zones. These challenges echo the accessibility and digital-divide concerns discussed in Section 12 and demonstrate that virtual exchange requires more than simply selecting an online platform. Effective implementation requires institutional arrangements that support cross-institutional coordination, teacher preparation, reliable technological access, and sufficient time for sustained interaction.

Third, teachers can develop digital literacy alongside linguistic competence. Learners need to evaluate online sources, understand communication norms, manage aspects of their digital identities, and participate appropriately in different communities. Emerging empirical evidence suggests that these competencies can be incorporated directly into language instruction rather than treated as separate curricular objectives.

In a ten-week pilot involving 32 university students in Ukraine, Bilenko et al. (2025) found that learners' written responses became substantially longer and that the number of reasoned arguments in discussion approximately doubled. Adherence to ethical norms of online interaction also increased by around 20–25%, with the reported

pre-post differences reaching statistical significance. These findings are suggestive rather than conclusive, however, because the study used a single-group pre-post design without a control group, limiting the extent to which the observed changes can be attributed to the intervention itself. Even with this limitation, the study illustrates how linguistic, digital, and ethical competencies can be developed through the same communicative activities.

Fourth, assessment can increasingly include authentic communicative tasks. Rather than measuring language exclusively through isolated tests, educators can evaluate presentations, collaborative projects, reflective writing, and sustained participation. Portfolio and performance assessment have an established research tradition in language education and can make learners' developing language use, revision, and reflection more visible than one-time testing allows. The effects of such assessment on other dimensions of learning should nevertheless not be assumed to follow automatically. In one study of portfolio assessment with adolescent learners, for example, the intervention did not measurably increase learners' overall autonomy, Czura (2013) concluded that a single assessment procedure is insufficient on its own to develop autonomy and needs to be accompanied by other pedagogical changes. This provides a useful caution for the framework in Section 15: authentic assessment can strengthen the feedback dimension by creating opportunities for learners to examine and respond to evidence of their language use, but it does not automatically activate the autonomy dimension.

Taken together, these implications suggest a broader shift in institutional posture. Meaningful English use can occur beyond the physical classroom and beyond traditionally English-speaking countries, but providing access to digital environments does not by itself create immersion. Institutions therefore need to build the interaction, feedback, reflection, and sustained participation structures through which digital opportunities become learning opportunities. The objective is not to maximize learners' access to English in digital environments, but to create conditions in which that access can develop into purposeful and sustained participation.

17. Conclusion

The traditional association between immersion and physical relocation reflects an earlier communicative landscape in which sustained access to international English-speaking communities often required travel. That landscape has changed. Digital communication has created geographically distributed environments in which English can function as a language of education, professional activity, entertainment, friendship, collaboration, and identity. Learners can now encounter English continuously without necessarily crossing a national border.

This does not make study abroad obsolete. As Section 13 detailed, physical mobility continues to offer distinctive linguistic, cultural, social, and embodied experiences. Learners who study abroad have generally shown greater gains in areas such as oral fluency and vocabulary in several comparative studies, although the size and consistency of these advantages vary (DeKeyser, 1991; Segalowitz & Freed, 2004). These advantages may be related in part to the density, variety, and unpredictability of face-to-face encounters, while Kinginger (2013) emphasizes the situated and dialogic qualities of language learning through study abroad that cannot be fully abstracted from place. Digital immersion should therefore not be idealized as an equivalent substitute for physical immersion. At the same time, the evidence reviewed throughout this chapter, on intercultural competence, identity, autonomy, accessibility, and AI-mediated practice suggests that digital access alone is insufficient to guarantee learning gains. Outcomes depend on how access is organized and used, including the extent of structure, facilitation, meaningful participation, and sustained engagement. The concept of immersion should therefore be broadened rather than simply transferred from physical to digital settings.

Immersion is better understood as sustained participation in meaningful communicative activity than as physical presence alone. This reframing has a useful theoretical precedent in Lave and Wenger's (1991) account of legitimate peripheral participation in communities of practice. Their framework describes learning as gradually deepening participation in a community's shared activity, as newcomers move from peripheral involvement toward fuller participation over time. This perspective provides a useful lens for understanding both physically and digitally mediated language-learning environments: a learner may gradually become a more active participant in an expatriate community, an online forum, a professional network, or a virtual-exchange project.

From this perspective, geographical location is one factor shaping the opportunities available for participation, rather than the defining condition of immersion itself.

The central pedagogical challenge is therefore not simply to send learners abroad or to place technology in classrooms. It is to create environments in which learners have meaningful reasons and opportunities to use English regularly. Digital technologies make such environments increasingly accessible across geographical distance, but, as the seven-dimension framework in Section 15 and the institutional implications in Section 16 suggest, technology alone does not create them. Patterns of participation matter: how regularly learners engage with English, the purposes for which they use it, whether they interact with others, whether they produce language as well as consume it, whether they receive and respond to feedback, and whether they sustain these activities over time. The

empirical record illustrates the limitations that can arise when these dimensions are weak or disconnected. Learners may engage extensively in receptive digital activities without comparable productive engagement (Lee, 2019), while online contact can occur without successful mutual understanding or reflective engagement with communication difficulties (Ware, 2005).

The future of English language learning may consequently involve a movement from a model in which immersion is something learners travel to experience toward a model in which learners can actively construct sustained English-language environments wherever they are. Geographic mobility can open a door to immersion. Digital connectivity can open another. The doors lead to different kinds of communicative environments, and neither guarantees meaningful participation. The task for language educators is to help learners walk through those doors—and to turn access into sustained participation, participation into communication, and communication into learning.

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