

Implementing a Seamless Learning Environment: Towards Enhancing the Experience of Adult ESL/EFL Learners

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Abstract

This doctoral thesis examines how Mobile-Assisted Seamless Learning Environments (SLEs) can support adult ESL/EFL learners in Canada by enhancing motivation, engagement, and socially collaborative learning. The study is guided by the following research questions: (1) To what extent does the implementation of a seamless learning environment impact the motivation and engagement of adult ESL/EFL learners in Ottawa? (2) Does the use of technology support the principles of social constructivism and the distributed cognition framework in an SLE for adult ESL/EFL learners in Canada? If so, how? and (3) What are some of the “best” and/or “promising” practices that emerge from the design and implementation of an equitable and inclusive SLE for adult ESL/EFL learners in Canada?

Grounded in plurilingual and multicultural education, Universal Design for Learning (UDL), social constructivism, and distributed cognition, the study employs a two-phase Critical Participatory Action Research (C-PAR) design. Phase 1 involved a semi-structured focus group used to identify learners’ goals, challenges, and expectations within formal language programs. Findings revealed the need for flexible multimodal access, authentic real-world communication, reduced affective barriers, increased peer support, and learning spaces that respect cultural and linguistic identities. These insights informed the participatory co-design of a mobile Seamless Learning Environment implemented through Telegram. In this study, a seamless learning environment (SLE) is understood as a digitally mediated learning context that intentionally connects formal and informal learning spaces, modalities, and social interactions, enabling learners to move fluidly across contexts, activities, and technologies in support of sustained engagement and language development. Unlike more bounded online learning environments, the SLE foregrounds continuity of learning experiences across time, space, and social settings.

Phase 2 examined learner experiences within the SLE through observational data and post-intervention interviews. Results indicate that the SLE positively influenced learner motivation by supporting autonomy, continuity across formal and informal spaces, and culturally responsive, identity-affirming learning. The environment fostered distributed cognition by enabling collaborative knowledge construction, peer scaffolding, and shared problem-solving across devices, contexts, and modalities. Learners reported lower anxiety, heightened confidence, and sustained engagement due to the SLE's flexible structure and multimodal pathways.

The study offers three key contributions: (1) an empirically informed model of mobile seamless language learning, (2) evidence demonstrating how SLEs operationalize social constructivist and distributed cognition principles in adult ESL/EFL contexts, and (3) a set of promising design practices for developing equitable, inclusive, technology-enhanced learning environments. Collectively, the findings underscore the potential of SLEs to bridge classroom learning with real-world communication, promote intercultural competence, and support more empowering pathways for adult language learners in Canada.

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1. Introduction and Problem Statement

The evolving nature of emerging technologies has not diminished the value of implementing specific educational tools, which continue to enhance learners' experiences, particularly within English as a Second Language (ESL) education (Halim & Hashim, 2019). The increasing integration of digital platforms into language education has transformed the traditional learning landscape, enabling more interactive, engaging, and personalized approaches to teaching and learning. This transformation is particularly significant for language learners, who often require tailored support and adaptable resources to navigate their language acquisition journey successfully.

Empirical findings reveal that online learning platforms designed to facilitate collaborative knowledge production significantly enhance learners' focus, study planning, and overall comprehension and retention of information (Barreto, 2018; Peeters, 2018; Al-Mubireek, 2019; Abuhassna et al., 2020). These platforms afford pedagogical opportunities for greater learner autonomy, enabling students to take charge of their educational journey and engage in self-paced learning. This is especially crucial for adult learners balancing multiple responsibilities, such as employment and family obligations, while striving to improve their English proficiency.

Building on this, the combination of formal lessons with social media-inspired, multimodal digital learning platforms has demonstrated notable improvements in learners' academic success in both summative and formative evaluations. As Abdullah et al. (2018) emphasize, these platforms expose students to authentic learning opportunities, a critical component in language acquisition. Authentic language learning experiences involve creating meaningful contexts that mirror real-life language use, allowing learners to develop linguistic competencies in a practical, socially relevant manner.

In contrast to decontextualized or contrived classroom exercises, authentic learning tasks are those that reflect the communicative purposes, audiences, and sociocultural contexts in which the target language is naturally used (Roach, 2018; Gilmore, 2019; Matthews, 2025). They prioritize meaning-making and genuine interaction over mechanical accuracy, thereby positioning learners as real-world language users rather than test-takers. This can be facilitated through various strategies such as engaging in simulations, communicating with native speakers, participating in cultural activities, and using authentic materials such as newspapers, videos, and podcasts (Nikitina, 2011; Brown & Lee, 2015; Ahmed, 2017). Such exposure ensures that learners not only develop proficiency in the target language but also gain sociocultural competence, fostering deeper engagement and a sense of belonging within their new linguistic communities.

The increasing linguistic and cultural diversity in Canada further underscores the urgency of creating more inclusive language education frameworks. The Canadian Bureau of International Education reported that in 2021–2022, over 630,000 international students were enrolled in Canadian higher education institutions, with 85% studying in Anglophone institutions (CBIE, 2022). Additionally, Canada has consistently welcomed around 350,000 new immigrants annually since 2015 (Immigration Canada, 2022). These figures reflect a growing demand for effective and adaptive ESL programs that can accommodate learners from varied cultural and linguistic backgrounds.

However, despite this diversity, much of the existing English language teaching materials and research adhere to a 'one-size-fits-all' model (Tomlinson & Masuhara, 2013), which fails to adequately address the varied linguistic, cultural, and socio-economic realities of learners. Research indicates that communication is inherently an intercultural exchange (Chun, 2015), where socio-cultural elements are inseparable from language (Byram, 2009). As Hall (1990)

famously observed, “culture is communication and communication is culture” (p. 186), underscoring the inseparability of cultural context and communicative practice in learning environments. Nevertheless, ESL curricula and instructional materials frequently assume a homogenous learner profile, who is often an “aspirational, urban, middle-class, well-educated, westernized computer user” (Tomlinson & Masuhara, 2013, p. 248). This limited perspective marginalizes learners whose experiences, interests, and goals do not align with this constructed archetype, thereby diminishing their engagement and sense of agency in the learning process.

As Ottley (2016) emphasizes, such an oversimplified philosophy alienates learners who do not conform to this assumed profile, leading to disengagement, reduced motivation, and an overall sense of disenfranchisement in their language learning journey. This lack of learner-centered pedagogy hinders personalized and meaningful language acquisition, as curricula often dictate what learners 'need' to learn without considering their unique contexts, aspirations, and agency. When ESL education fails to recognize learners' individuality, it reinforces systemic barriers to linguistic and social integration, ultimately limiting their academic and professional opportunities.

The prevalence of neoliberalist policies in ESL/EFL adult education has instrumentalized English, that is, positioned it primarily as a utilitarian tool for economic advancement, reducing it to a marketable skill and commodifying the acquisition of Western/Anglo cultural norms (Bernstein et al., 2015). This perspective repositions language teachers as replaceable knowledge workers and language learners as passive consumers within a globalized language education industry (ibid).

At the policy level, neoliberal rationalities are enacted through mechanisms that emphasize accountability, efficiency, and competitiveness in adult language education. Institutional practices such as outcome-based funding, standardized language assessments, and credentialing systems

prioritize measurable productivity over critical or emancipatory pedagogies (Molnar, 2014; Brown, 2015). These processes reconfigure the educational mission of ESL/EFL programs from social inclusion and cultural participation to economic utility and employability. As a result, policy frameworks become vehicles of institutional instrumentalization, embedding market values within public education and positioning English language learning as a strategic investment rather than a humanistic or democratic pursuit (Bhopal & Shain, 2014; Williamson & Eynon, 2020).

In this sense, neoliberal globalization has reframed English language education not simply as a pedagogical enterprise but as an economic project linked to human capital development. This orientation follows global trends where governments promote English proficiency as a competitive advantage in the global marketplace rather than as a tool for intercultural communication or critical engagement.

The Anglo-centric sociolinguistic landscape prioritizes English language norms, values, and communication styles rooted in Western cultures. Within this context, individuals with limited English proficiency often experience lower economic mobility, restricted employment opportunities, and social exclusion. As a result, acquiring English is frequently framed as a necessity rather than a choice (Grover et al., 2014).

This dynamic further complicates the process of language learning, as it imposes economic and social pressures on learners to conform to dominant linguistic and cultural norms, often at the expense of their own linguistic and cultural identities.

However, as Bernstein et al. (2015) argue, learning a dominant language can be a dual-edged experience, both oppressive and liberatory, empowering yet simultaneously constraining. Mastering English enables individuals to engage with and challenge hegemonic discourses, offering them the potential to use the language as a tool for self-advocacy and socio-political

participation. As Grover et al. (2014) elucidate, adult ESL learners require English proficiency to navigate essential aspects of their daily lives, including workplace communication, parental involvement in education, legal and governmental processes, and access to financial and healthcare services. The ability to communicate effectively in English, therefore, extends beyond linguistic competence; it directly influences learners' ability to integrate into society, access critical services, and advocate for their rights.

These practical and context-specific demands necessitate an educational approach that prioritizes learner agency, autonomy, and access to inclusive, equitable learning materials tailored to their individual goals and circumstances (Huang et al., 2011; Grover et al., 2014). Given these complexities, ESL/EFL educators and researchers working within predominantly Anglo-centric, yet socio-culturally diverse communities must critically examine language education from within the system. By leveraging this positionality, educators can foster more emancipatory and empowering learning experiences that advance learner agency and self-determination.

In recent years, the growing number of adult ESL/EFL learners online in the Canadian context, with all their linguistic and cultural diversity, has intensified the call for pedagogical differentiation and culturally responsive teaching. Lam (2019) highlights that Canada's increasingly multilingual classrooms require instructional models that not only accommodate varied linguistic repertoires but also affirm learners' cultural identities as integral to language development. At the same time, scholars have cautioned that culturally responsive approaches can become reductive when culture is treated as static or when responsiveness is enacted at a surface level rather than through meaningful engagement with learners' lived and evolving experiences (Paris & Alim, 2014; Ladson-Billings, 2014). Similarly, Fajariyah et al. (2023) emphasize that differentiated instruction in language classrooms enhances learner engagement and equity by

tailoring content, process, and assessment to diverse learner needs. These findings underscore the necessity of flexible, learner-centered approaches, such as Seamless Learning Environments, that can adapt to individual learning trajectories while maintaining opportunities for collaboration and shared meaning-making.

This research seeks to explore the potential and limitations of implementing a seamless learning environment, one that integrates personalized, socially responsive, and technologically enhanced learning strategies to optimize language education for adult ESL/EFL learners in Canada. By critically analyzing and addressing the structural inequities embedded within existing ESL education frameworks, this study aims to contribute to a more inclusive, effective, and learner-centered approach to language education.

Purpose and Scope of the Study

This research investigates the potential and limitations of implementing a Seamless Learning Environment (SLE), one that integrates personalized, socially responsive, and technologically enhanced learning strategies to optimize language education for adult ESL/EFL learners in Canada. In this thesis, a seamless learning environment (SLE) refers to a digitally mediated learning context that intentionally connects formal and informal learning spaces, activities, and social interactions, enabling learners to move fluidly across contexts, technologies, and moments of learning. The concept emphasizes continuity of learning experiences over time and across settings rather than learning confined to a single platform or instructional space. The study examines how SLEs can promote motivation, engagement, and equitable access by bridging formal and informal learning contexts, supporting social interaction, and enabling learners to exercise autonomy while remaining connected to collaborative communities of practice. Grounded in the principles of Universal Design for Learning (UDL), Social Constructivism, and Distributed

Cognition, this research seeks to critically analyze how SLEs can address structural inequities embedded within traditional ESL education frameworks and contribute to a more inclusive, effective, and learner-centered approach to language education.

To realize these aims, the study was structured around a set of guiding research questions that examine how adult ESL/EFL learners experience, negotiate, and construct knowledge within a Seamless Learning Environment. These questions were designed to explore not only the pedagogical and technological dimensions of SLE implementation but also the affective and equity-oriented outcomes that emerge from it. Together, they reflect the study's broader goal of understanding how socially mediated, technology-supported, and learner-centered design principles can transform language education into a more inclusive and sustainable ecosystem of learning.

Research Questions and Focus

The existing corpus of scholarly works suggests that the influence of seamless learning environments (SLE) on the language learning experience is contingent on the specific components of the platform and instruction that are developed and implemented (e.g., Wong & Looi, 2011; Dörnyei & Ushioda, 2011; Sharples et al., 2015).

In light of this, the current study is guided by three primary research questions, which collectively examine the pedagogical, cognitive, and equity-oriented dimensions of implementing a Seamless Learning Environment (SLE) for adult ESL/EFL learners in Canada.

Main Research Question:

1. To what extent does the implementation of a seamless learning environment impact the motivation and engagement of adult ESL/EFL learners in Canada?

Sub-Questions:

2. Does the use of technology support the principles of social constructivism and distributed cognitive framework in a SLE for adult ESL/EFL learners in Canada? If so, how?
3. What are some of the “best” and/or “promising” practices that promote equitable and inclusive SLE for adult ESL/EFL learners in Canada?

Table 1. Research questions in relation to study phases

Research Question	Investigated in Phase 1	Investigated in Phase 2
RQ1 – Impact of SLE on motivation & engagement	✗	✓
RQ2 – Technology + Social Constructivism & Distributed Cognition	⦿ <i>Indirect groundwork</i>	✓ <i>Direct experiential evaluation</i>
RQ3 – Promising practices for equitable & inclusive SLE	✓	✗

Key conceptual definitions, including *digital and mobile language learning*, *seamless learning*, *distributed cognition*, *Universal Design for Learning (UDL)*, and *plurilingualism and multiculturalism* are elaborated in Chapter 2, which provides the scholarly foundation for this study and situates the research within broader discussions of technology-enhanced and equitable language education.

2. Literature Review

This chapter reviews key bodies of literature relevant to the design and analysis of a seamless learning environment for adult ESL/EFL learners. The literature and its relevant concepts are examined in relation to how a seamless learning environment may shape learner motivation, engagement, and participation across digitally mediated contexts. Drawing on scholarship on

emerging technologies, digital and mobile language learning, seamless learning, and inclusive pedagogical frameworks, this chapter establishes the scholarly foundation for the study's research questions and supports the interpretation of learners' experiences within the learning environment examined in this research.

For the purposes of this study, a seamless learning environment is conceptualised as a digitally mediated learning ecology that enables continuity of learning across time, space, contexts, and social settings, supported by emerging and mobile technologies and guided by inclusive pedagogical design. The literature reviewed in this chapter is therefore organised around the key elements that contribute to the development of such an environment, including the technological conditions that enable learning across contexts, the role of digital and mobile learning in supporting continuity of experience, and pedagogical frameworks that foster engagement, motivation, and participation among adult ESL/EFL learners.

Specifically, the literature is examined in relation to its relevance for understanding how the design of a seamless learning environment may influence adult ESL/EFL learners' experience, motivation, and engagement.

2.1. Emerging Technologies: Definitions, Opportunities, and Challenges

This section examines emerging educational technologies as the technological conditions that underpin the design of seamless learning environments. In the context of this study, emerging technologies are considered in relation to how they enable learning across contexts, mediate interaction and participation, and influence learner engagement and motivation within adult ESL/EFL learning environments.

Since the introduction of audio-visual technologies in the 1960s, there have been speculations about the various aspects and impacts of technology in education (Palalas, 2011).

Interpersonal relationships and communication have undergone significant macro-societal changes, permanently altered by the rapidly expanding field of emerging technologies (Mishra & Koehler, 2006). Open-sourced learning and knowledge sharing platforms, such as YouTube®, Google®, and MOOCs, have permanently altered the way in which we perceive and expect the learning process (Li, 2019; López-Meneses et al., 2020; Alhazzani, 2020).

The term ‘emerging technologies’ has engendered extensive discourse and exploration within the realm of education and the integration of technology. Miller et al. (2005) aptly define emerging technologies as tools and infrastructures that, while introduced, have not yet solidified their status as institutional necessities. These are innovations on the precipice of full-scale adoption, possessing the potential to reshape educational landscapes and methodologies. This delineation underscores the concept of emergence as a transitional phase in the adoption and utilization of innovations, rather than solely focusing on the temporal aspect of their introduction.

However, Velestianos (2010) introduces a more nuanced perspective, advocating for a broader understanding that transcends mere institutional strategy. He contends that the classification of emerging technologies should encompass their multifaceted utilization across diverse educational settings. Velestianos suggests that emerging technologies embody a spectrum of “tools, concepts, innovations, and advancements utilized in diverse educational settings (including distance, face-to-face, and hybrid forms of education) to serve varied education-related purposes (i.e., instructional, social, and organizational goals)” (p. 13). This perspective underscores the fluidity and dynamism inherent in emerging technologies, perpetually evolving, and contributing to the evolution of education. The delineation and classification of emerging technologies within the intricate tapestry of the educational landscape have ignited a maelstrom of contemplation, fervent discussion, and ardent debate. Central to these debates are questions about

pedagogical integration, ethical and equity concerns, and the shifting role of teachers and learners. For instance, researchers continue to question whether the rapid adoption of technologies such as artificial intelligence, adaptive learning systems, and immersive environments (e.g., VR/AR) genuinely enhance learning outcomes or risk promoting superficial engagement and over-reliance on automation (Selwyn, 2016; Bayne, 2022). Others argue that emerging technologies exacerbate existing inequities by privileging digitally literate or well-resourced learners, raising issues of access, privacy, and algorithmic bias (Williamson & Eynon, 2020; Holmes et al., 2022). At the same time, ongoing discussions explore how technological mediation redefines teacher agency and learner autonomy, prompting calls for frameworks that balance innovation with critical digital pedagogy (Knox, 2020; Trust et al., 2023). These debates illustrate that the integration of emerging technologies in education is not a neutral process but a dynamic negotiation between opportunity, ethics, and equity.

At the heart of this discourse lies an innate recognition of the transformative power that emerging technologies wield. They possess the capacity to revolutionize conventional pedagogical paradigms, reshape the dynamics of instruction, and expand the scope of engagement, interaction, and knowledge dissemination. Consequently, the deliberations surrounding their definition and categorization stem from an intrinsic desire to grasp the essence of these technologies, to encapsulate their potential, and to ascertain their role in sculpting the future of education. Scholars, educators, and practitioners alike are acutely aware that the process of defining emerging technologies transcends the mere act of taxonomy (Halaweh, 2013). It reexamines the core aspects of technological evolution, demanding an exploration of the nuanced interplay between innovation, adoption, adaptation, and pedagogical integration (Lu & von der Heidt, 2018). The

contours of this discourse are not confined to sterile academic corridors; they are embedded within modern education, shaping policies, curricula, and instructional strategies (Lederman, 2017).

In this wide-ranging discourse, varying perspectives highlight the complex and interconnected dimensions of emerging technologies. Some advocate for a pragmatic approach, seeking to categorize emerging technologies based on their state of adoption and institutional relevance (Selingo, 2015). This lens often emphasizes the temporal dimension, focusing on the point at which a technology transitions from novelty to necessity within educational environments. Conversely, a more holistic perspective is championed by those who recognize that the criteria for classification extend beyond institutional strategies. They examine the factors influencing the adoption of emerging technologies, recognizing the multiple elements that shape these decisions (Godwin-Jones, 2021). This perspective encompasses not only educational functionality but also social, economic, and cultural dynamics that intersect and influence the technological landscape.

Across these varied perspectives, a common understanding emerges: defining and categorizing emerging technologies is a dynamic rather than static process. It reflects the very nature of the technologies themselves, constantly evolving, adapting, and responding to the changing needs of learners, educators, and society. This scholarly discourse on emerging technologies in education extends beyond theoretical considerations; it represents an ongoing dialogue about technological progress and its relationship to educational practice and design (Levy, 2009; Pokrivcakova, 2019; Godwin-Jones, 2021).

Still, despite the controversies surrounding the definition and characteristics of emerging technologies, it is imperative to at least address some established defining attributes of emerging technologies, so that it may serve as a foundational framework upon which the parameters of this

research project can be positioned. In this regard, Velestianos (2010) introduces a comprehensive set of characteristics that encapsulate the essence of emerging technologies.

State of Emergence and Adoption: The concept of 'emergence' extends beyond the technology's creation, focusing instead on when it becomes adopted and put into practice. This shift in perspective acknowledges that the timing of technology integration plays a pivotal role in its emergence.

It is of paramount significance to delineate that the terms 'emerging' and 'new', though frequently employed interchangeably, may not invariably be concomitant in denotation. While ascribing a definitive explication to 'new' proves to be a potentially hazardous and contentious endeavor, the realm of Emerging Technologies (ET) can encapsulate nascent developments (e.g., the application of motion-sensing attributes inherent to video game controllers for the refinement of surgical techniques) as well as more antiquated paradigms (e.g., the integration of open-source learning management systems within institutions of higher education) (Velestianos, 2010).

Notwithstanding the factual veracity that a preponderance of emerging technologies indeed manifests as recent innovations, it would be reductive to presume that newness in and of itself universally confers the mantle of emergent status. Equating all budding innovation with those denoted as emergent feeds into a comprehension fallacy novelty is an attribute of emergence when it comes to education technology.

For instance, the use of Virtual Reality (VR) in learning, is amongst the most trending emerging technologies in education in recent years, however, the technological facets of VR, Augmented Reality (AR), and synthetic simulation have existed since the mid-1990s (Dede, 1996). Another example is the use of multi-user dungeons or multi-user virtual learning environments as a tool in gamification of learning. The concept has been in existence since the 1980s and the

evolution of the technologies involved has contributed to the re-emergence of this approach in teaching and learning in recent years (Dieterle, 2009; Livingstone et al., 2007). In current discourse, virtual domains continue to be positioned within the realm of emerging technologies, even though their core components and underlying concepts have existed for decades (de Freitas, 2008). Thus, relying solely on novelty to define what constitutes an emerging technology is insufficient.

Dynamic Evolution: Emerging technologies exist in a perpetual state of evolution, adapting and developing based on the needs and preferences of their target users. This adaptive quality ensures their relevance and resonance within evolving educational landscapes (Velestianos, 2010).

Dynamic evolution delineates an ongoing and iterative process of advancement and enhancement within the realm of technologies and methodologies. For example, the typewriter, has long reached the pinnacle of its evolutionary potential based on hardware and utilization potential. In contrast, the concept of social-media blogging has evolved from Twitter® to Instagram® to TikTok® and serves as an example of a technology concept that undergoes the process of dynamic evolution, labeling its latest evolution in development as “emergent”. An attribute of dynamic evolution in emergent technology is the ability to troubleshoot and adapt the technology based on user preferences and feedback. For instance, the release of the new integrated Threads® platform was accompanied by operational challenges during instances of heightened technological demand. These operational challenges serve to adjust and adapt the platform to newly established user demands, preferences and heightened usage, ultimately evolving the platform to a more trending application based on user feedback and interface.

Cycles of Popularity: The popularity and utilization of emerging technologies can experience cycles based on the functions they serve and user demand. This cyclical nature highlights the fluidity of technology adoption and the influence of ever-changing educational contexts.

In today's fast evolving technological landscape, what captures our fascination today could become a mere passing trend tomorrow. While we're drawn to the potential of revolutionary changes in education, it's crucial to approach grand promises of transformation with a hint of skepticism. Technology has undoubtedly reshaped how distance education is practiced and managed, yet it's worth acknowledging that the educational sphere, marked by its historical, cultural, and organizational fabric, often exhibits a degree of resilience to rapid change (Selwyn, 2016; Cuban, 1993; Lortie, 1975).

In this dynamic setting, innovations and concepts follow “cycles of euphoria, adoption, activity and use, maturity, impact, enthusiasm, and even infatuation” (Veletianos, 2010, p.15). The trajectory of emerging technologies and ideas can lead to either their establishment as foundational elements or their gradual relegation to the periphery (Selwyn, 2016; Veletianos, 2010).

A contemporary framework that provides insight into the fervor surrounding emerging technologies and educational concepts is the Gartner Hype Cycle model (Veletianos, 2010; Fenn & Raskino, 2008). This model assesses the evolution and impact of technologies and ideas across five distinct phases: the Spark of Innovation, Peak of Expectations, Disillusionment Trough, Enlightenment Slope, and Productivity Plateau (Fenn & Raskino, 2008). The Hype Cycle has been adapted and tailored to the various education domains such as higher education (Gartner, 2008) and e-learning (Gartner, 2006).

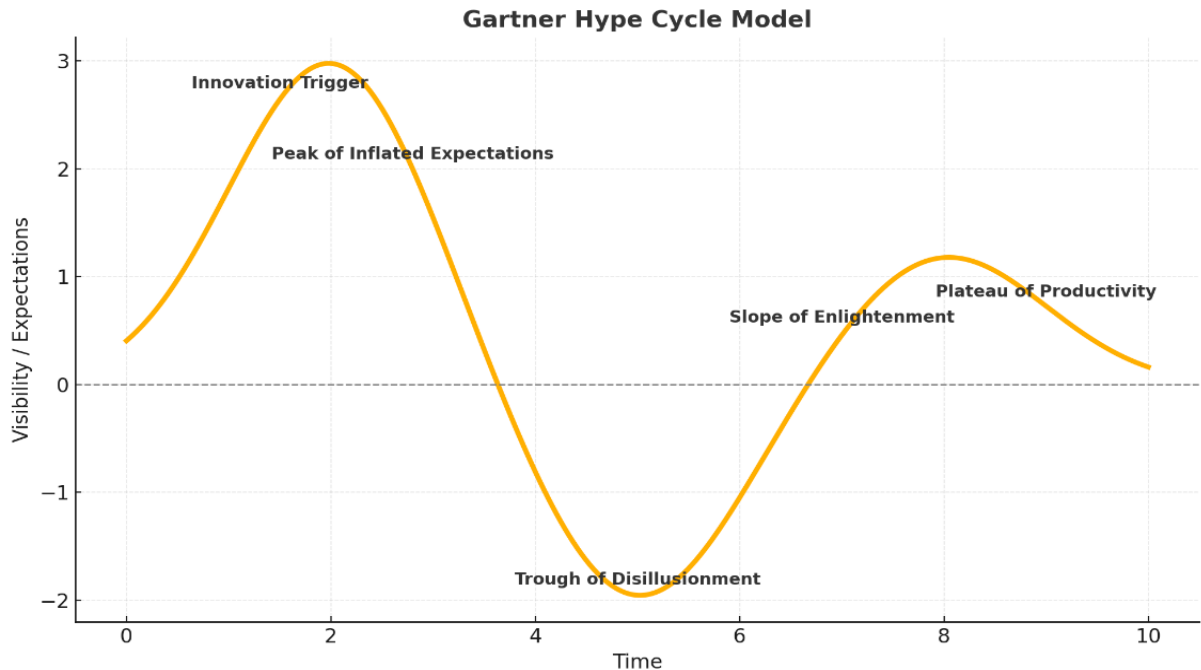


Figure 1. The Hyper Cycle Model

For instance, consider the meteoric rise and subsequent recalibration of virtual reality (VR) technology. Initially, VR experienced the Spark of Innovation as pioneers introduced rudimentary prototypes and ideas. This was followed by the Peak of Expectations, a period marked by enthusiastic projections about VR revolutionizing industries from gaming to education. However, as practical applications fell short of inflated aspirations, the Disillusionment Trough set in, prompting a more balanced assessment of VR's capabilities. Subsequently, the Enlightenment Slope witnessed a refined understanding of VR's potential, leading to its integration in diverse fields with measured expectations. Finally, as VR became more adeptly integrated into various sectors and proved its utility, it reached the Productivity Plateau, assuming a stable position as a valuable tool in education and beyond (Dixon, 2006).

In a similar vein, artificial intelligence (AI) has undergone a comparable trajectory. From its initial sparks in research laboratories, AI quickly ascended to the Peak of Expectations, generating widespread excitement about its transformative potential. However, challenges and

ethical concerns led to a temporary disillusionment phase. Through incremental advancements, AI has gradually transitioned to the Enlightenment Slope, where its practical applications in education, healthcare, and other sectors are better understood. Holmes et al. (2023) suggested that AI stands on the verge of reaching the Productivity Plateau, with its integration into everyday tools and services becoming increasingly seamless and impactful. However, despite its rapid and multifaceted adoption across industries, it may be argued that the full spectrum of AI's practical applications and challenges remains under exploration, necessitating further extensive research before it can be said to have truly entered the Productivity Plateau phase.

Incompletely Researched and Understood: Emerging technologies often lack comprehensive understanding or extensive research, signifying their potential for growth and transformation within the educational realm.

Emerging technologies hold a shroud of uncertainty, setting them apart from their established counterparts. These technologies signal an exploration of their educational impact, most notably within the context of distance learning where social networking sites come to the fore. The implications of easy interactions, exemplified by the “add as friend” feature, prompt reflection on their potential for bridging digital divides or possibly perpetuating societal disparities. Alongside this, the pedagogical capabilities embedded within social networking sites, as well as strategies for nurturing engagement within virtual learning communities, warrant a closer look. Simultaneously, the advent of location-aware devices, introduces a realm of untapped potential, offering the promise of enriched communal learning experiences (Dede, 1996).

Emerging technology research embarks upon its journey with an air of enthusiasm, delving into preliminary assessments of attributes such as benefits and drawbacks. This investigative phase, often adopting methodologies aligned with case studies and formative evaluations, sheds

light on the early endeavors to unravel the essence and latent promise intrinsic to these technologies. This research evolution resonates with the developmental path of the technologies themselves, which tend to mirror established frameworks. Critics argue that these technologies echo ongoing media discussions, missing the intricate interplay between pedagogy and technological advancement (Choi & Clark, 2006; Clark, 1994; Kozma, 1994; Tracey & Hasting, 2005). A recurring observation surfaces, indicating how fresh technologies frequently adopt familiar guises, such as the replacement of traditional slide projectors with linear PowerPoint presentations, the transformation of personal reflection journals into blogs, and the substitution of non-agent lectures by pedagogical agents.

Potential for Disruption: While holding the promise of disruption within their respective fields, the full extent of an emerging technology's potential often remains untapped, hinting at the untold possibilities yet to be realized.

Emerging technologies often harbor untapped potential, yet their realization can be hindered by various factors. These factors are frequently rooted in the characteristics of the technologies themselves. For instance, the education sector, historically resistant to change, often struggles to fully embrace and adapt to these innovations. Furthermore, the limited availability of mature research on many emerging technologies impedes their widespread adoption and diffusion. This gap in research knowledge creates a barrier to the integration of such technologies into existing systems and practice (Fulton & Honey, 2002; Velestianos, 2010).

One striking example in recent times is the advent of blockchain technology in various industries. Blockchain has been lauded for its potential to revolutionize traditional systems of record-keeping, offering increased transparency, security, and efficiency. Proponents argue that it could disrupt industries such as finance, supply chain management, healthcare, and education

administration by streamlining processes and reducing fraud. However, despite the widespread recognition of blockchain's potential, its practical implementation has been slow to materialize in many sectors due to regulatory challenges, technical complexities, and the need for industry-wide collaboration (Albeanu, 2017).

In the context of education, open educational resources (OER) represent another example. OER, which include freely accessible educational materials, have the potential to transform learning by making high-quality resources available to a broader audience. While enthusiasm for OER is growing, traditional textbooks and proprietary content continue to dominate the educational landscape in many institutions (Velestianos, 2010). This resistance to change, coupled with the inertia of established systems, and the political and economic weight of the major publishing houses that publish school textbooks, illustrates how even promising technologies may face significant barriers to full realization (Wiley et al., 2014; Otto, 2019). Hence, understanding the opportunities and challenges associated with emerging technologies is essential for examining how a seamless learning environment can be designed to support continuity of learning and meaningful engagement for learners.

2.1.1 Opportunities

In the context of this study, the opportunities afforded by emerging technologies lie in their capacity to support continuity of learning across contexts, enhance learner interaction, and foster engagement and motivation among adult ESL/EFL learners. Drawing upon the foundational principles and defining attributes of emerging technologies, a number of opportunities become apparent regarding their integration into educational environments. These include enhanced connectivity, real-time problem-solving, remote infrastructure access, cost-effective training, reduced waste, and faster feedback (Okwu et al., 2022).

Emerging technologies enable educators to gather real-time data on student performance that extends beyond conventional assessments. Such data can provide insights into learning styles, strengths, and areas needing support, offering a pathway toward personalized instruction (Tissenbaum & Slotta, 2019). For example, language learning software can monitor vocabulary acquisition, pronunciation accuracy, and writing proficiency. This data can be analyzed to identify individual learner needs and inform adjustments in instructional strategies. If a student struggles with vocabulary, more interactive exercises can be introduced; if pronunciation is a challenge, specific tools or apps can be recommended. The ability to tailor instruction in this way enhances both learner outcomes and instructional effectiveness.

Recent advances in artificial intelligence (AI) have further expanded these possibilities by enabling systems to deliver adaptive and personalized learning experiences in real time. AI-driven platforms can analyze multimodal learner data, such as engagement patterns, speech recognition metrics, and error trajectories, to dynamically adjust instructional content and feedback (Zawacki-Richter et al., 2019; Holmes et al., 2022). In language education, adaptive AI tutors and natural language processing (NLP) systems can now provide instant feedback on pronunciation, grammar, and discourse coherence, while recommendation algorithms suggest targeted exercises aligned with each learner's progress and goals (Kukulska-Hulme & Lee, 2020; Huang et al., 2023). These developments not only extend the principles of personalized learning but also embody a data-informed approach that integrates Universal Design for Learning (UDL) by offering multiple pathways and supports for engagement, representation, and expression. When used critically and ethically, AI-driven personalization holds transformative potential for enhancing accessibility, sustaining motivation, and supporting learner autonomy in technology-enhanced language learning environments.

The use of technology also supports professional collaboration through virtual communities of practice. These online platforms allow educators to connect across geographic boundaries, exchanging strategies, resources, and experiences. Such networks facilitate the circulation of best practices and foster innovation in teaching methodologies (Jansen & van der Merwe, 2015). For instance, language instructors across the globe can collaborate in real time, sharing strategies for grammar instruction or speaking activities and adapting them to culturally diverse classrooms.

In parallel, learners themselves form digital learning communities that promote agency, collaboration and peer-supported knowledge building. Recent studies have shown that these communities, often emerging organically through social media, messaging apps, and online discussion platforms, create participatory ecosystems where learners exchange strategies, share linguistic resources, and co-construct meaning in authentic contexts (Reinders & Benson, 2021; Wang & Vásquez, 2023). Such networks extend beyond formal classrooms, blending personal, academic, and professional learning spaces in ways that sustain motivation and foster autonomy (Godwin-Jones, 2022). Within ESL/EFL contexts, digital communities on platforms such as Telegram, Discord, and WhatsApp have been found to strengthen learners' communicative competence, intercultural awareness, and confidence by facilitating ongoing social interaction and feedback among peers (Lai, 2020; Chartrand & Lord, 2021). These findings reinforce the social constructivist view that language learning is not a solitary cognitive process but a socially mediated, distributed activity where learners act as both knowledge seekers and contributors.

Technology also empowers educators to design interactive curricula, particularly for complex or abstract topics. Digital tools facilitate the creation of visually rich and immersive content that fosters deeper comprehension (Mayer, 2021; Zhang & Zou, 2021). By integrating

students' out-of-school digital literacies and communication styles into instruction, educators can make curriculum content more relevant and engaging (Hafner, 2022; Thorne, Sauro, & Smith, 2021). This alignment between informal and formal learning modalities increases learners' sense of ownership and motivation (Godwin-Jones, 2022).

Furthermore, technology has opened new channels for community involvement in education. When communities are engaged in conversations about technological priorities and educational outcomes, a shared sense of purpose and investment can emerge (Edwards et al., 2021). This collective agency can promote cohesion and drive advocacy for educational equity. Finally, emerging technologies offer potential solutions to teacher shortages. Online professional development opportunities, such as webinars and on-demand training, enable just-in-time skill acquisition. These flexible learning formats make it easier for educators to adapt to the evolving classroom landscape. They also help attract new talent from diverse backgrounds, contributing to a more inclusive teaching workforce (Berry & Shields, 2017).

Collectively, these opportunities underscore the transformative potential of emerging technologies as foundational components of seamless learning environments. By supporting continuity across contexts, personalization, collaboration, and inclusive participation, such technologies play a central role in shaping learner engagement and motivation within the broader educational ecosystems.

2.1.2. Challenges

From a seamless learning perspective, the challenges associated with emerging technologies must be examined in terms of how they may disrupt learning continuity, participation, and equitable engagement across contexts. While emerging technologies have transformed contemporary education by expanding access to online, mobile, and distance learning, their

implementation also introduces persistent challenges that complicate the design of seamless learning environments, particularly for learners in disadvantaged circumstances. A major obstacle lies in the assumption that technological access automatically equates to equitable participation.

While access is a necessary condition for inclusion, it does not guarantee meaningful engagement or learning outcomes, particularly for learners who face structural or socio-economic barriers. As Selwyn (2016) cautions, “digital technology might be part of a solution to overcome social disadvantage, but it should never be seen as the solution” (p. 53). Recognizing these limitations is essential for a balanced understanding of the role technology can play in education.

A major obstacle arises from the commercialization of educational technologies. Although profitable for corporations, such products often come at a high cost, limiting access for earners in disadvantaged circumstances. This dynamic contradicts the ethos of public education as an equalizer and risks exacerbating inequities rather than alleviating them (Bhopal & Shain, 2014). In practice, the commercialization of emerging technologies reinforces socio-economic divides: while affluent learners may access the latest tools, underprivileged students are left without comparable opportunities (Molnar, 2014).

Recent research on adult education further highlights that inequity extends beyond access to devices or connectivity. It encompasses digital literacy, institutional support, and the ability to meaningfully engage with technology. Studies show that adult migrant learners, in particular, face systemic barriers linked to digital skills, linguistic proficiency, and limited access to pedagogically relevant tools (Maahs, 2025). Similarly, Pinsent-Johnson and Sturm (2024) emphasize that adult education remains the “missing link” in bridging the digital divide, as many programs fail to provide sustained training that enables learners to critically and confidently use digital technologies. Without addressing these deeper structural issues, the promise of educational

technology as an equalizer remains unrealized. Thus, digital literacy and equitable access must be seen as integral components of inclusive educational reform, particularly in contexts serving adult ESL/EFL learners. Within a seamless learning environment, these structural and socio-economic barriers can disrupt continuity across learning contexts and limit learners' sustained engagement and participation.

Closely linked is the misalignment between corporate priorities and pedagogical realities. Commercial developers typically focus on product viability rather than instructional integration. As a result, the professional development burden falls disproportionately on educators, who are expected to constantly adapt to new systems without adequate institutional support (Selwyn, 2016). Training, monitoring, and evaluation infrastructures are costly and often neglected by policymakers (Diallo et al., 2013). Consequently, educational policies designed to promote innovation frequently underestimate the resources required for effective implementation.

Policy-related challenges further complicate integration. Governmental decision-making frequently prioritizes cost efficiency and statistical performance over holistic learning outcomes. Research provided to policymakers tends to emphasize data-driven measures of success rather than the lived experiences of teachers and learners (Bhopal & Shain, 2014). Yet, education is inherently socio-cultural and relational, making it difficult to reduce to quantifiable indicators (Lynch & Baker, 2005; Kavanagh & Danielson, 2020). Teachers are often left to devise solutions independently, shouldering the weight of professional development without adequate systemic backing.

Socio-cultural and geographic contexts introduce additional layers of complexity. Implementation trends often follow "what is popular" with minimal attention to local cultural dynamics or equity considerations (Darinskaia & Molodtsova, 2019; Valtonen et al., 2022). The

narrative of digital technology as a universal equalizer, particularly in online and distance learning, can obscure persistent inequalities. Learners' experiences are inevitably shaped by their racial, economic, political, and geographic positions, rendering the ideal of equal digital opportunity a mirage (Lynch & Baker, 2005; Traxler, 2016; Selwyn, 2016).

Recent research further demonstrates that digital inequity is not merely about access, but also about digital literacy and agency. Gallagher, Di Cesare, and Rowsell (2019) found that newcomer families and adult learners often experience significant challenges in navigating digital environments due to limited familiarity with technological norms and institutional expectations. Their study underscores that digital literacy must be understood as a social practice, embedded within linguistic, cultural, and socio-economic contexts that shape how individuals engage with technology. For adult ESL learners, this means that equitable access cannot be achieved through connectivity alone, rather, it also requires sustained, culturally responsive support that builds confidence, digital fluency, and critical awareness of how technologies mediate learning and opportunity.

Educators also face the challenge of limited visibility into learners' media practices outside the classroom. Students engage with a diverse range of digital platforms, from social media to online gaming, which often shapes their expectations for learning. Without understanding these practices, educators risk creating content that feels disconnected from learners' realities (Galadima & Salau, 2014). Facilitating meaningful connections between students' lived media experiences and classroom instruction requires intentional effort and open dialogue.

Another pressing challenge is fostering critical engagement with digital media. While students regularly encounter mass media and popular culture, guiding them toward critical analysis of these experiences can be demanding. Teachers must cultivate inclusive classroom environments

that allow diverse perspectives to surface while also encouraging critical examination of media and its societal implications (Patel & Jain, 2016). These tasks require pedagogical sensitivity and skill, especially when navigating contested or complex issues.

Teacher attitudes toward technology further influence the success of integration. Resistance or skepticism toward digital tools, viewed as distractions or threats to traditional instruction, can limit students' exposure to vital digital literacies (Prensky, 2001; Rigler Jr, 2016). Generational gaps between digitally fluent students and less digitally immersed educators compound this issue. Professional development programs must therefore address not only technological competence but also teachers' mindsets toward innovation (Scheg et al., 2017).

The scope of digital media literacy adds another dimension of challenge. Effective media literacy education demands attention to access, analysis, composition, reflection, and civic action. Designing curricula that integrate all of these elements is complex and resource intensive. Teachers must balance equipping students with functional digital skills while fostering broader capacities for critical thinking and civic participation (Lim & Koh, 2015; Richardson, 2019; von Gillern, Gleason, & Hutchison, 2022).

Finally, the rapid pace of technological change requires educators to remain adaptable. Lifelong learning, continuous professional development, and collaboration with peers are essential for keeping pace with innovation (Karakose, Polat, & Papadakis, 2021; Saviano & Salerno, 2014). Yet, this expectation places considerable demands on educators already working within constrained systems. Balancing meaningful academic experiences with preparing students for civic life in the digital age remains a delicate, ongoing challenge.

These challenges highlight that the integration of emerging technologies within educational contexts is a deeply contextual process shaped by economic structures, policy decisions, teacher

agency, and socio-cultural inequities. Understanding and awareness of these challenges provide an important contextual backdrop for interpreting learners' experiences and engagement within the seamless learning environment examined in this research.

2.2. Digital Language Learning, Mobile Learning, and Seamless Learning

Building on this broader technological context, this section examines literature on digital language learning, mobile learning, and seamless learning to explore how learning is conceptualised across settings, modalities, and moments, and how these perspectives inform learner engagement and continuity of experience.

The COVID-19 pandemic has engendered unprecedented challenges across various sectors, profoundly altering the landscape of education through the swift adoption and integration of diverse technologies into teaching practices and online instruction. This seismic shift has heralded a new era of educational technologies, driving the exploration and implementation of emergent tools and platforms that are meticulously tailored to address the unique demands and opportunities posed by post-pandemic modes of learning and communication (Wen Kim-Hua, 2020; Christopoulos & Sprangers, 2021). The pandemic-induced disruptions served as a catalyst for an extraordinary leap in the utilization of technology within education contexts. The rapid migration from traditional classroom settings to remote and online learning necessitated a reimagining of pedagogical approaches, resulting in a pervasive integration of digital tools. Institutions, educators, and learners alike were compelled to navigate uncharted territories, leading to an accelerated evolution of educational technologies that encompassed virtual classrooms, video conferencing platforms, online collaboration tools, and innovative content delivery methods. This paradigm shift underscores the resilience and adaptability of the education sector in embracing

emergent technologies to ensure continuity and engagement amidst the crisis (Fansury, January, & Ali Wira Rahman, 2020; Zhang, 2020; Hazaymeh, 2021). From a seamless learning perspective, these shifts highlight the importance of sustaining continuity across time, space, and settings, positioning digital and mobile language learning as key mechanisms for maintaining learner engagement beyond bounded classroom environments.

In a Canadian context, the pandemic significantly transformed second-language teaching practices. Dressler and Guida (2022) found that teachers across Canada rapidly adopted digital platforms to maintain instructional continuity, often redefining professional roles and classroom dynamics in the process. Follow-up research by Dressler et al. (2023) revealed that many of these adaptations have persisted beyond the crisis, suggesting a long-term pedagogical shift toward blended and technology-enhanced instruction. Similarly, a Council of Europe report emphasized that the post-pandemic period has prompted educators across Europe to rethink the aims and methods of language education, advocating for more sustainable and learner-centred approaches to technology integration (Heyworth & Rossner, 2023). These studies illustrate how global crises can accelerate structural change in language education systems, embedding digital fluency as an essential professional competency for educators.

As the educational landscape metamorphosed in response to the pandemic's challenges, a new wave of emergent technologies appeared, purposefully designed to cater to the unique requirements of post-pandemic learning and communication. These technologies were thoughtfully curated to bridge the gaps inherent in remote learning, prioritizing accessibility, interactivity, and collaboration. The evolution of learning management systems, personalized learning platforms, and adaptive assessment tools attests to the proactive response of educators

and institutions to create an enriched and inclusive learning environment that transcends physical boundaries.

Among the diverse educational domains profoundly affected by the pandemic-induced technological surge is language learning (Putika, 2020). Language acquisition, heavily reliant on effective communication and interpersonal interactions, underwent a paradigm shift as educators endeavored to replicate immersive language experiences within virtual spaces (Maican & Cocoradă, 2021). The digital epoch ushered in a plethora of innovative solutions, ranging from language learning apps equipped with real-time translation capabilities to AI-driven speech recognition tools that facilitate nuanced language practice and feedback. This transformative shift extends beyond linguistic proficiency, encompassing cultural engagement and cross-cultural communication, thereby fostering a comprehensive language learning experience that adapts to the exigencies of the times (Wen Kim-Hua, 2020).

2.2.1. Digital Language Learning (DLL)

Building on the technological conditions outlined in the previous section, this section examines literature on digital language learning, mobile learning, and seamless learning as mechanisms through which continuity of learning across contexts is enacted for learners in digital language learning environments.

Digital Language Learning (DLL) has become increasingly essential in addressing the unique challenges posed by language education in the aftermath of the pandemic (Li & Lan, 2021). Li and Lan (2021) describe DLL as “digital technology-based or technology-enhanced language learning platforms or tools, or the practices of learning using such platforms or tools” (p. 1). This definition includes both traditional language learning software and innovative practices that leverage the latest advancements in digital technologies. It is important to note that DLL does not

merely represent the use of technology as a supplementary aid but constitutes a paradigm shift in language education, where technology is integrated into the very fabric of the learning process.

Li and Lan (2021) further emphasize that while language learning technologies have been in existence for some time, DLL distinguishes itself by prioritizing platforms and tools that harness the most recent innovations in the digital sphere. These innovations are deliberately designed to foster self-regulated, exploratory, and autonomous learning. The emphasis on autonomy underscores a broader educational principle in which learners are empowered to control their own learning journeys, select resources according to their needs, and engage in independent practice. This approach resonates with the goals of equitable and learner-centered education, ensuring that diverse learners have more tailored opportunities to achieve language proficiency.

Within the realm of DLL, multiple technologies are emerging as particularly influential. Virtual Reality (VR) has gained attention as it allows learners to enter immersive environments where they can practice language in simulated real-world contexts. Such experiential learning offers authenticity that traditional classroom activities often lack. Context-specific Augmented Reality (AR) builds on this by layering digital information over physical spaces, creating interactive and context-rich opportunities for practice. Gamification applications add another dimension by integrating competitive and playful elements into language learning, which can increase motivation and learner engagement (Huang, Zou, Cheng, & Xie, 2021; Parmaxi & Demetriou, 2020). Although these tools differ in form, they converge around the same pedagogical goal: to enhance immersion, authenticity, and sustained learner participation.

Artificial intelligence has become integral to reshaping digital language learning (DLL) in the post-COVID landscape. Intelligent Computer-Aided Language Learning (iCALL) systems now leverage adaptive algorithms to personalize instruction based on individual learners' progress,

while corpus-based collaborative platforms enable authentic, data-driven communication tasks. Network-based social computing technologies extend opportunities for collaboration beyond geographical boundaries, and synchronous Computer-Mediated Communication (CMC) platforms facilitate real-time interaction between learners and instructors (Heift & Schulze, 2007; Ko, 2012).

Recent research highlights that these innovations represent not merely technological enhancements but pedagogical transformations: AI-driven frameworks increasingly position learning as socially situated, cognitively adaptive, and continuously responsive to learner behavior (Li & Lan, 2022; Qiao et al., 2023). The shared trajectory across these developments reflects a shift from isolated, decontextualized drills toward personalized, collaborative, and context-rich learning processes that reflect authentic, real-life, communication practices. From a seamless learning perspective, these developments position digital language learning as a mechanism for sustaining continuity across learning contexts by enabling learners to engage with language practice across time, settings, and modalities, both within and beyond formal instructional spaces.

These pedagogical shifts are reflected in further advances such as intelligent tutoring systems that employ Automatic Speech Recognition (ASR) and AI-driven simulations. ASR technologies analyze spoken input in real time, providing immediate feedback on aspects such as pronunciation accuracy, fluency, and intonation. Recent research demonstrates that ASR-based learning environments can substantially improve learners' oral proficiency and confidence by enabling repeated, self-paced practice with personalized corrective feedback (Li, 2023; Levis et al., 2021). This individualized feedback addresses one of the enduring challenges in language education: the lack of individualized corrective input within large classroom contexts. At the same time, AI-driven simulators create dynamic, low-stakes conversational environments where learners can practice and refine communicative skills in authentic contexts. Meanwhile, AI

simulators create dynamic virtual dialogues where learners can practice conversational skills in a low-stakes environment. Together, these technologies not only help learners refine their linguistic accuracy but also foster confidence in speaking. Studies have shown that such systems, by providing timely and adaptive feedback, advance the objectives of digital language learning (DLL) by promoting autonomy, engagement, and sustained motivation (Hung et al., 2018; Chang & Hwang, 2019; Rao, 2020; Chen et al., 2022; Zou & Xie, 2022).

Jointly, these technologies support a wide range of instructional modes, including online, hybrid, and multimodal approaches. Their overarching emphasis is on improving accessibility, convenience, and personalization for learners. DLL thus extends beyond being a collection of tools; it is best understood as a pedagogical approach that integrates digital affordances into language education in ways that directly enhance authenticity, learner autonomy, and inclusivity. The underlying principle is that technology, when thoughtfully deployed, can scaffold language learning in ways that are more responsive to diverse learner needs, more adaptive to evolving contexts, and more aligned with global educational shifts. In doing so, DLL addresses pressing questions about equity and effectiveness in ESL/EFL education, situating technology as a central, not peripheral, component of language acquisition in the digital age.

While digital language learning environments support personalized and adaptive language practice, their full potential is increasingly realized when learning extends beyond fixed digital platforms and into learners' everyday contexts, a shift that is foregrounded in the literature on mobile language learning.

2.2.2. Mobile Learning

Extending the discussion of digital language learning beyond fixed platforms, mobile learning is examined in this study as a key component of a seamless learning environment, given

its potential to support learning continuity, learner mobility, and engagement across formal and informal contexts. Mobile devices such as smartphones and tablets have become indispensable to modern communication and learning. Within language education, Mobile-Assisted Language Learning (MALL) has emerged as a dynamic and increasingly influential subset of digital learning. The portability and ubiquity of mobile technologies enable learners to access resources instantly, practice language skills across varied contexts, and overcome the physical and temporal restrictions associated with traditional in-person learning (Kukulska-Hulme, 2009; Lindman & Nolan, 2015). In this respect, MALL is not merely about convenience but about reconfiguring how, where, and when language learning can take place. By situating learning within authentic, everyday environments, MALL brings education closer to learners' lived experiences and fosters greater continuity between formal and informal learning spaces.

Defining MALL is inherently shaped by evolving sociocultural understandings of what constitutes "mobile." Palalas (2011), Lindman and Nolan (2015), and Çakmak (2019) observe that technological innovation constantly reshapes our conception of mobility. Kukulska-Hulme (2009) argues that mobility extends beyond physical space to include dimensions of time-shifting and boundary-crossing, thereby enabling learners to seamlessly integrate language practice into daily life. As such, MALL is not simply an instructional trend but an adaptive framework capable of incorporating emerging technologies as they evolve. This adaptability positions MALL as a sustainable platform for future-oriented language education.

Kearney et al. (2012) highlight three defining features of MALL that make it particularly significant for second and foreign language learning: authenticity, customization, and connectivity. Authenticity is achieved through access to genuine language content such as news articles, videos, podcasts, and social media interactions (Beetham & Sharpe, 2007). Such content

situates learners within real communicative contexts, helping them acquire not only linguistic forms but also cultural meanings. Customization is facilitated through adaptive learning programs that personalize instruction to individual learners' strengths and needs. This personalization operates on two levels: linguistically, by tailoring content to learners' proficiency levels (Gharehblagh & Nasri, 2020), and technologically, by employing algorithms that refine instructional design based on learner profiles (Li & Lan, 2021). Connectivity, the third feature, extends learning beyond the classroom by enabling learners to interact with peers, instructors, and speakers of the target language through language exchange forums, apps, and virtual communities (Kearney et al., 2012). In these spaces, learners not only practice language but also engage in cultural exchange, thereby cultivating intercultural competence (Reynolds & Shieh, 2020; Hua & Gao, 2021).

These features reinforce each other. For example, customized content delivered through mobile apps can be integrated into authentic communication scenarios in global online communities, simultaneously promoting linguistic development and cultural awareness. In this sense, MALL provides opportunities for collaborative knowledge sharing, a foundational element of e-learning, distance education, and social constructivist pedagogy (Kukulska-Hulme & Viberg, 2018). Moreover, its flexibility allows learners to adopt multimodal strategies—choosing between videos, podcasts, games, or text—depending on their learning preferences (Pachler, 2007; Bannan et al., 2016; Çakmak, 2019). This adaptability mirrors the principles of Universal Design for Learning (UDL), where learner agency and choice are central to engagement.

The transformative potential of MALL lies in its capacity to transcend the limitations of traditional classroom-based education. By enabling spontaneous, on-the-move learning experiences (Kukulska-Hulme & Traxler, 2005), MALL empowers learners to integrate language

practice into the rhythms of daily life. For instance, students can engage with vocabulary-building games during commutes, participate in real-time conversations with native speakers via mobile apps, or use augmented reality tools to contextualize new vocabulary in real-world settings. Such experiences blur the boundaries between formal instruction and informal practice, reinforcing learning in ways that are both practical and motivating.

Looking forward, MALL is positioned to evolve in tandem with emerging technologies such as AR, VR, AI, and seamless learning platforms (Alisoy & Sadiqzade, 2024; Wu et al., 2023). Its inherent adaptability ensures that mobile learning can continuously integrate these innovations, offering learners new opportunities for engagement, personalization, and intercultural communication. However, despite this potential, current research indicates that most mobile-assisted language learning applications remain narrowly focused on vocabulary acquisition, with limited integration of complex language skills or higher-order communicative functions (Klimová et al., 2023). This nuance underscores the gap between MALL's technological promise and its current pedagogical implementation, suggesting a continuing need for research that expands its scope beyond lexical learning. Thus, MALL represents not only a current force in language education but also a forward-looking pedagogical model that reflects the digital realities of contemporary learners while anticipating future shifts in technology and practice.

2.2.3. Seamless Learning

Sharples et al. (2007) describe language learning on a digital platform as “the process of coming to know through conversation across multiple contexts among people and personal interactive technologies” (p. 225), a conceptualisation that has since informed scholarship on seamless learning. The concept of seamless learning emerges in a framework where learning is “embedded in the context in which authentic learning takes place” (Li & Lan, 2021, p.2), and the

learner is continuously connected to an ecology of learning on a global scale. The post pandemic-shift in language education practices has further highlighted the impact of this concept. Wong et al. (2015) propose that designing a seamless learning environment (SLE) is an ongoing research process due to the evolution of digital technology, which enables further “blurring” and “removing of seams” that prohibit optimization of SLE in practice.

Connotationally, seamless learning implies an inherent continuity in the process of learning that attempts to remove the boundaries of formal and informal learning. To do so, seamless learning offers students a variety of learning scenarios where “they can switch from one scenario to another easily and quickly using the personal device as a mediator” (Chen, 2015, p.V). These scenarios include learning autonomously or collaboratively, based on preferred modes of facilitation or instruction, in a multimodal and hyperflex manner, unencumbered by location and time. As Chen et al. (2006) explain, in defining seamless learning environments (SLE), it is paramount to bear in mind that ‘seamlessness’ does not merely define the mobility and accessibility functions of the experience, but rather the holistic tangible and intangible ecology of the experience, from what is available and practiced presently, to what it can potentially evolve into in the future. For Chen et al. (2006),

Exploration and investigation in the seamless learning space provides a potential to extend formal learning time, usually limited to the classroom, into informal learning time, to embrace opportunities for out-of-school learning driven by the personal interests of students, which may involve interacting with an online learning community, visiting museums, participating in community projects, or other venues. When we used the word space in the term seamless learning space, we implied that seamlessness may be an overall description of all possible changes that technology may bring to education in the future. (p. 6)

Therefore, it is innocuous to hypothesize that while SLEs are not free of foundational, developmental, and pedagogical challenges, due to their ever-evolving nature, they have the

potential to enhance the language learning experience by transforming the fundamental nature of effective learning.

Research investigations into seamless learning sparked nearly two decades ago, yet the existing literature on SLE in practice is still laden with various disparities. In fact, as Seow et al. (2014) explain, “there are theoretical, methodological, technological, and practical issues which need to be addressed in order to help researchers and educators understand seamless learning and create

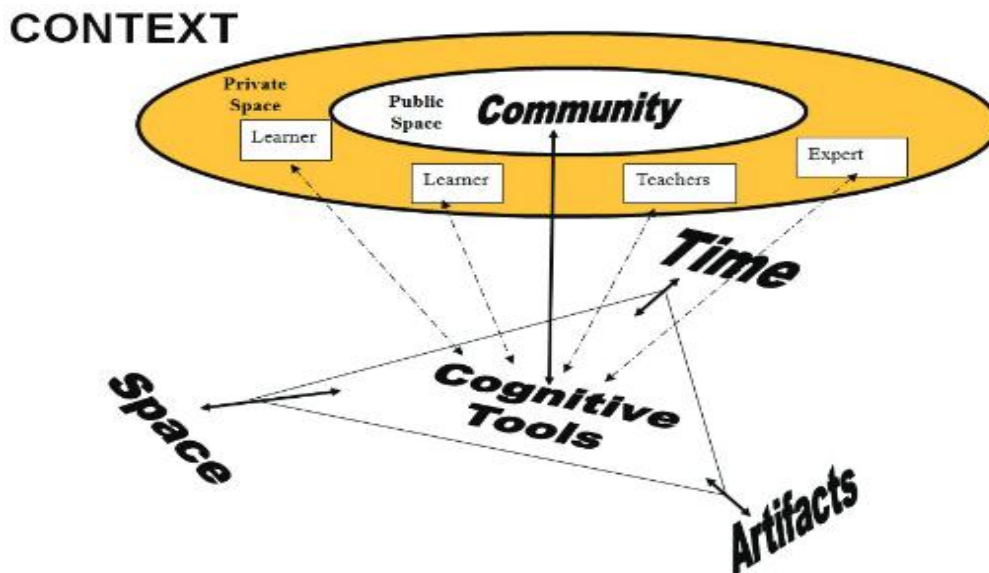


Figure 2. Distributed Cognition Conceptual Framework for Seamless Learning (Seow et. al, 2008, p.7)

pedagogical strategies to exploit the use of seamless environments for teaching and learning” (p. 2). Accordingly, they identified six components for a functional SLE framework: Space, Time, Context, Community, Cognitive Tools, and Cognitive Artifacts.

Space refers to both the virtual and physical presence of learners as well as their public and private learning spaces. The use of mobile devices in a seamless learning environment can “affect accessibility as well as the sharing of ideas and engagement in co-constructed activities among students” (Bielaczyc, 2006 in Seow, 2014, p. 6). As an example, for a language learner, any virtual or physical platform where they utilize their mobile device to inquire and explore can be identified as a learning space, provided that their inquiry is conducted in the target language.

Time refers not only to the timeless attributes of SLE but also the amount of time each learner requires to construct collaborative knowledge with their peers and instructors, engage in exploration and inquiry, and achieve Bildung (Humboldt, 2002). Bildung is the combination of formal education formation and necessary knowledge required to thrive in one's society, as an autonomous learner and a knowledge collaborator (Herdt, 2019).

Context of the designed activities impacts student learning by enabling observation, encouraging data collection, analysis, and application, on individual and collaborative levels. The multimodal nature of activities ensures that each learner can select the learning method that is most beneficial to them.

Community refers to the community of practice in a seamless learning environment. Community of Practice (CoP) is a multi-purpose concept and a social learning theory which considers learning in a social context as requiring both participation and reification to make learning meaningful and is advocated as 'a means for innovation' (Wenger-Treyner, 2015). CoPs consist of three basic elements. First, CoP is a joint enterprise which becomes the incentive for the contribution of knowledge. Second, CoP facilitates mutual engagement which fosters a sense of belonging and involvement that enables the members to share in and contribute to the knowledge production, critical discourse, and practice. Third, CoP offers a shared repertoire which is "the specific knowledge the community develops, shares, and maintains" (Mortier, 2020, p. 332).

Cognitive tools are described as external tools specifically designed for learning such as digital and technological components which allow the learners to record, capture, upload, share, and reference data. Cognitive tools as defined by Seow et al. (2014) must present five attributes to learning. A cognitive tool "1) scaffolds intentional learning and meta-cognition, 2) allows student to create knowledge, 3) engages student in critical thinking about subjects, 4) significantly

restructures or amplifies thinking, and 5) facilitates collaboration and distributed cognition” (Seow et al., 2014, p. 7).

Whereas cognitive artefacts are learner produced data representations. “One affordance of mobile devices is the ability to consolidate different artifacts to create aggregated or consolidated representations or views” (ibid). An ideal SLE would potentially allow students to index, search, and retrieve their artefacts within the SLE, a function similar to searching hashtags on Instagram®.

Wong et al. (2015) propose that designing a SLE is an on-going research process since the evolution of digital technology enables further ‘blurring’ and ‘removing of seams’ that prohibit optimization of SLE in practice. Wong and Looi (2012) consider the removal of obstacles (the seams) in enhancing SLE as spectrums rather than dichotomies as “different intervention designs may encompass different combinations of ‘removed seams,’ depending on the respective natures of the subject domains, main pedagogical or learning approaches adopted, and resource constraints” (p. 17). This is to ensure that in meeting pedagogical objectives in designing SLE frameworks, the degree to which a certain component needs to be incorporated is taken into consideration rather than the absence or presence of said component.

Wong and Looi (2012) also propose that seamless learning requires a shift in educational practices. More specifically, the authors advocate for an alteration of education culture which incorporates mobile learning into the curriculum, and trains learners in ‘meta-cognitive abilities’ allowing them to connect formal education with daily life. In this way, “The ultimate aim of seamless learning is to enable people to engage in productive self-regulated learning that spans times, locations, devices, and tasks” (Shaples, 2015, p. 53).

Empirical findings (Uosaki et al., 2013; Foomani & Hedayati, 2016) suggest that enhancing the autonomy of language learners by enabling them to choose their own context, create their own

learning contents, and advancing their agency in the process of learning, encourages authentic socio-cultural experiences which, in turn, help narrow the gaps between the learners' functional language and the target language. A tangible example of this approach in ESL/EFL education is encouraging students to use social media application in English to brows content, discover communities, and share collaboratively constructed knowledge and create their own contents.

Despite the constantly evolving nature of emerging technologies, implementing some of these technologies has proven to be beneficial in enhancing the learners' experience, specifically within the ESL context (Halim & Hashim, 2019). Barreto's (2018) findings reveal that online learning platforms that promote collaborative knowledge production have a significant effect in increasing learners' focus, study planning, and overall comprehension and retention of information. Abdullah et al. (2018) reveal that in fusing formal lessons with multimodal, social media inspired, digital learning platforms, the overall score of language learners were raised in summative and formative evaluations as they were exposed to authentic learning material. Consequently, as Abdullah & Hashim (2021) stress, "seamless learning has the potential to revolutionize teaching and learning by enriching the opportunity of continuous learning" (p. 1). Access to unlimited and continuous customized learning materials and support, infused with socio-cultural interactions in the target language, is a step towards providing an optimized and equitable language learning experience.

Additionally, in ESL/EFL learning, it is important for students to first develop the skills that enables autonomous learning and self-regulation (Parisi, 2020), so that learners can feel in control of their own learning process (Alzubi et al., 2017). It is without a doubt that seamless learning, as Abdullah & Hashim (2021) maintain, is able "to create and produce ESL learners who are competent to learn English autonomously" (p. 1355). SLE provides limitless access to an

expanse of information that is available at the learner's convenience, within the learner's control (Ozdamli, 2013). Therefore, SLEs have the potential to positively impact and alter the language learning process and enhance and elevate the learning experience, particularly for ESL/EFL learners (Abdullah & Hashim, 2021).

Digital learning platforms provide the foundations for equitable access to education, which is inclusive and non-discriminatory. As education has long been considered a conversational, communal, and collaborative process, digital technologies “are seen to be ideal spaces for such conversations and collaborations to take place” (Selwyn, 2016, p. 33). These technologies enable learners from diverse ethno-racial, socio-economic, and cultural-geographic backgrounds to connect and access comparable learning opportunities, while also allowing individuals to protect aspects of their digital agency and identity. As Carey (2015) argues, emerging technologies have the potential to “upend a cornerstone of the American meritocracy, fundamentally altering the way our society creates knowledge and economic opportunity” (p. 3). From this perspective, marginalized, racialized, exoticized, disenfranchised, and disadvantaged individuals may gain pathways that counteract exclusionary practices rooted in standardized, Anglo-centric models of education and narrowly framed notions of diversity and inclusion (i.e., affirmative action policies).

However, this optimistic trajectory must be considered alongside evidence showing that technologies and digital environments are not culturally neutral. Recent scholarship emphasizes that educational technologies often reflect embedded biases, corporate agendas, and inequitable design logics that disproportionately impact already marginalized communities (Macgilchrist et al., 2024). In addition, structural barriers related to digital access, infrastructural availability, and digital literacy continue to shape learners' participation in digitally mediated education, frequently reinforcing, rather than alleviating, systemic inequities (Meng et al., 2024). Taken together, these

perspectives highlight the need for a critical, equity-oriented approach to emerging technologies in language education that recognizes both their transformative potential and their capacity to reproduce existing hierarchies.).

At the same time, it is important to recognize that learners do not experience these barriers uniformly. An intersectional perspective (Crenshaw, 1989; Collins & Bilge, 2020) helps illuminate how overlapping factors, such as race, gender, class, immigration status, linguistic background, and disability, shape learners' access to and engagement with digitally mediated language education. Research in adult and multilingual education further demonstrates that these intersecting social locations influence not only learners' technological access but also their confidence, participation, and perceived legitimacy within digital spaces (Yosso, 2005). Incorporating an intersectional lens therefore strengthens equity-oriented approaches by underscoring that technology-enhanced learning environments must account for layered, systemic inequalities (e.g., connectivity, device sharing, caregiving schedules, workplace precarity, and culturally situated digital literacies) rather than treating learners as a homogenous group (OECD, 2023). This perspective directly supports plurilingual and UDL-informed pedagogies, both of which emphasize responsiveness to diverse learner identities and aim to create learning spaces where individuals' sociocultural realities are recognized as resources rather than obstacles.

Research indicates that enhancing the autonomy of language learners by allowing them to select their own context, create their own learning content, and advance their agency in the learning process encourages authentic socio-cultural experiences that help reduce the disparity between the learners' practical language abilities and the target language (Uosaki et al., 2013; Foomani & Hedayati, 2016). Allowing learners to engage in curriculum guided content creation using multimedia on social platforms, enables them to become actively involved in generating learning

resources and become more autonomous learners (Foomani & Hedayati, 2016). Ultimately, SLEs hold the potential to transform ESL/EFL education by enhancing learner autonomy, promoting intercultural competence, and bridging formal and informal learning. They resonate closely with principles of Universal Design for Learning (UDL) and plurilingual pedagogies, both of which emphasize flexibility, accessibility, and the recognition of learners' diverse linguistic repertoires . These approaches signal an emerging shift toward more holistic and equitable models of language learning that respond to learners' real-world communicative needs and sociocultural contexts. By removing the seams that fragment learning, SLEs create conditions where adult ESL/EFL learners can thrive as autonomous, self-regulated, and socially connected participants in their language learning journeys.

2.3. Universal Design for Learning (UDL), Plurilingual and Multicultural Education

This section reviews inclusive pedagogical frameworks, including Universal Design for Learning, plurilingualism, and multicultural education, to consider how learner diversity, agency, and participation are addressed within digitally mediated language learning environments.

Before examining the pedagogical frameworks that guide the design of digital learning platforms in language education, it is essential to clarify how the concepts discussed thus far (Seamless Learning Environments (SLEs), Universal Design for Learning (UDL), learner autonomy, and plurilingual pedagogies) interrelate as components of a single, holistic learning paradigm (Meyer et al., 2014; Looi et al., 2019; Piccardo, 2018; Lai, 2020, Espada-Chavarria et al., 2023). Each framework foregrounds different facets of the learner experience. SLEs connect learning across contexts, UDL ensures accessibility and adaptability, plurilingual pedagogies validate learners' full linguistic repertoires, and autonomy-oriented approaches cultivate agency

and self-regulation. When viewed together, these perspectives converge toward a unified vision of language learning that is continuous, inclusive, culturally responsive, and grounded in real-life communicative practice. This integrated lens provides the conceptual foundation for understanding how emerging technologies can support a seamless and human-centered educational experience.

Universal Design for Learning (UDL), developed by the Center of Applied Special Technology (CAST) in the early 1990s, has emerged as a transformative framework in education. Its core principle is the recognition of the diverse learning preferences and needs of students, promoting flexibility in teaching and assessment to ensure inclusivity (Dempsey et al., 2021). This paradigm shift in educational philosophy is guided by three foundational principles: providing multiple means of engagement, multiple means of representation, and multiple means of action and expression (CAST, 2021).

These principles serve as the cornerstones of UDL, offering educators structured guidance for designing inclusive and adaptable learning environments. UDL allows for self-regulated and autonomous learning, flexible assessment, and student agency, moving beyond rote learning toward more effective, learner-centered strategies (Rose & Gravel, 2010). Moreover, UDL aligns with motivational theories such as self-determination theory, emphasizing intrinsic motivation through varied challenges and feedback (Ryan & Deci, 2000), and enhancing student engagement by activating prior knowledge and promoting integration (Mattick & Knight, 2007).

The first principle, Multiple Means of Representation, acknowledges that students process information in varied ways. Educators must therefore provide diverse strategies such as pairing verbal instructions with visual aids, highlighting keywords, or teaching vocabulary before reading

tasks. This ensures comprehension is accessible to learners with different preferences (Meyer et al., 2014; Levey, 2023).

The second principle, Multiple Means of Expression, highlights the importance of offering multiple pathways for students to demonstrate understanding. Learners may differ in their ability or comfort with oral presentations, writing, or digital outputs. For example, while some students may struggle with public speaking, they could be more successful with written narratives or recorded responses. Flexible assessment design allows all learners to participate meaningfully (Espada-Chavarria, 2023; Levey, 2023).

The third principle, Multiple Means of Engagement, recognizes that students' motivation and participation vary according to their cultural, linguistic, and personal backgrounds. UDL encourages educators to design tasks that connect with learners' interests and experiences, enabling sustained engagement. Effective strategies include integrating learners' cultural references into classroom practices, offering choice in activities, and incorporating collaborative, real-world tasks (Morton & Pilgrim, 2023).

These three UDL principles provide a framework that empowers educators to eliminate barriers and create equitable access to education. In language learning, this ensures that instruction does not merely accommodate diversity but actively embraces it as a design imperative (Hartmann, 2015). When embedded in digital language learning platforms, these principles provide a foundation for inclusivity and agency, shaping effective ESL/EFL instruction.

2.3.1. Universal Design for Learning in Language Education

Universal Design for Learning (UDL) as a set of principles for developing flexible and inclusive curricula, materials, and assessments that are accessible to all students regardless of their abilities and background, aims to eliminate barriers to learning and create an inclusive environment

(Rose & Meyer, 2002). In higher education, UDL is particularly important as it promotes equal access to education and enables students with disabilities to participate fully in academic experiences (Novak & Rodriguez, 2018). Its principles are applicable to course design, teaching strategies, and assessment methods. The key principles are Representation (for different learning styles), Expression (for various methods to demonstrate comprehension), and Engagement (with a diverse range of relevant tasks) (Scott et al., 2003; Burgstahler, 2008).

Incorporating UDL principles into language education empowers educators to create inclusive, flexible, and engaging learning experiences, ultimately enriching students' language proficiency, cultural awareness, and lifelong learning skills (Meier & Rossi, 2020). Based on the key principles of UDL, language education can be optimized and enhanced in the following ways:

Inclusivity: In language education, inclusivity means ensuring that all students, regardless of their background or abilities, have the opportunity to learn and excel (Grapinski, Gravel, & Rose, 2010). For example, if a language class includes students with varying levels of English proficiency, the teacher can use UDL to provide materials at different levels of difficulty. Beginner learners might engage with simplified texts while advanced learners work with more complex texts. This ensures that all students can participate actively and feel included in the learning process.

Individualized Learning: UDL also enables individualized learning paths (Doran, 2015). For instance, in a language class, a UDL approach might involve offering students a choice between traditional workbook exercises, online language games, or conversational practice sessions, depending on their preferences. This flexibility ensures that each student can pursue language learning in a way that aligns with their strengths and goals.

Enhanced Engagement: UDL encourages innovative teaching methods to engage ESL/EFL learners (Eichhorn et al., 2019). In practice, students might create digital storytelling projects where they use English to narrate personal experiences. This multimedia approach fosters creativity, sustains motivation, and simultaneously enhances listening, speaking, and writing skills.

Adaptive Assessment: Diverse learners require varied methods to demonstrate their abilities. While some ESL students may perform well in written exams, others might excel in oral presentations, video projects, or portfolio assessments. UDL encourages flexible approaches that align with students' strengths and give them multiple ways to showcase their proficiency (Meier & Rossi, 2019; Kakamad et al., 2021).

Lifelong Learning: An important strength of UDL in ESL/EFL education is its ability to equip students with strategies for ongoing language development. Beyond grammar and vocabulary, students may learn how to use language learning apps, join online language exchange groups, or practice through English-language media such as films or podcasts. These strategies promote autonomy and foster a sustainable passion for lifelong language learning (Espada-Chavarria et al., 2023).

Cultural Sensitivity: UDL also emphasizes the value of cultural inclusivity in language learning (Eberle & Childress, 2007). For example, in a French language class, educators might incorporate literature, films, and activities from a variety of French-speaking regions such as France, Canada, and Africa. This not only builds linguistic competence but also fosters intercultural awareness and respect.

Language Diversity: Finally, in ESL/EFL classes where students come from diverse linguistic backgrounds, plurilingual approaches can be integrated into UDL. This allows students

to draw on their native languages as resources while developing English proficiency (Ellis, 2013). Recognizing and validating linguistic diversity helps create an inclusive learning environment and enhances both language development and learner confidence.

Together, these applications illustrate how UDL goes beyond accessibility to actively foster agency, engagement, and inclusivity in language education. By embedding principles of representation, expression, and engagement into teaching practices, UDL enables educators to address the needs of diverse learners while promoting equitable outcomes in ESL/EFL contexts.

2.3.2. Plurilingualism

Plurilingualism refers to the ability of individuals or societies to use three or more languages, with recognition of these languages in given contexts. This goes beyond bilingualism (mastery of two languages) and emphasizes the value of acknowledging and embracing the linguistic and cultural diversity of individuals and communities. Plurilingualism enriches personal, social, and professional experiences and contributes to intercultural understanding and cooperation (Council of Europe, 2018).

Plurilingualism is highly significant in language education because its benefits extend well beyond the acquisition of multiple languages (Boeckmann et al., 2011). First, it fosters cultural understanding by encouraging learners to explore the cultural dimensions that are inherently tied to language. Language and culture are inseparable, and gaining proficiency in multiple languages allows learners to develop deeper insights into traditions, worldviews, and social norms associated with those languages (Mazari & Derraz, 2015).

Second, plurilingualism enhances communication skills in linguistically diverse contexts. Individuals proficient in multiple languages are better equipped to interact across multicultural

settings such as business, diplomacy, and education, where the ability to bridge linguistic differences fosters cooperation and mutual respect (Cenoz & Gorter, 2013).

Research also highlights the cognitive advantages of plurilingualism. Learners of multiple languages tend to show improved problem-solving skills, multitasking abilities, and stronger memory (Fielding, 2016). This is attributed to the mental flexibility required to switch between linguistic systems (Marian & Shook, 2012). Additionally, plurilingual learners often find it easier to acquire new languages, as existing linguistic knowledge provides transferable skills and accelerates the learning of additional languages (Piccardo, 2013; Dolas et al., 2022).

In terms of career opportunities, plurilingualism provides a competitive edge in professions such as translation, interpretation, international business, and diplomacy (Cenoz & Gorter, 2013). More broadly, plurilingual competence nurtures a global perspective, enabling individuals to engage effectively with international issues, politics, and cultural exchange (Serrano, 2017). This outlook aligns closely with the Council of Europe's Recommendation CM/Rec (2022)1, which urges educational systems to adopt inclusive policies that value linguistic and cultural diversity and promote the development of learners' plurilingual repertoires as foundations of democratic culture (Council of Europe, 2022). The Recommendation highlights that linguistic diversity enriches societies, strengthens social cohesion, and supports democratic participation by enabling learners to interpret, evaluate, and formulate arguments across cultural and linguistic contexts. .

These perspectives reinforce a broader pedagogical shift discussed throughout this chapter: The fact that Seamless Learning Environments (SLEs) designed with Universal Design for Learning (UDL), plurilingual pedagogies, and intercultural competence function as complementary and mutually reinforcing frameworks. Each contributes to a holistic, learner-centered approach in which accessibility, linguistic diversity, cultural responsiveness, and

continuous learning across contexts collectively prepare learners to participate fully and confidently in an increasingly interconnected and democratic world. This vision echoes Humboldt's previously mentioned concept of *Bildung*, wherein linguistic and cultural encounters cultivate autonomous, reflective, and socially responsible individuals capable of meaningful civic engagement (Humboldt, 2002). In this sense, plurilingualism not only enhances employability but also supports the development of the civic capacities, agency, and global citizenship required for active participation in contemporary society.

Another important dimension is linguistic resilience. Plurilingual individuals are more adaptable to linguistic change, such as evolving dialects, language decline, or hybrid forms of communication. This adaptability positions them as active participants in preserving and revitalizing endangered languages and cultures (Elorza & Muñoa, 2008; Elliot, 2021).

The relevance of plurilingualism is especially notable in ESL/EFL education (Jenkins, 2015; Galante et al., 2020; Ebrahimi, 2023); not because other language education domains lack positive outcomes, but because English occupies a distinctive geopolitical and sociolinguistic position as a global lingua franca (Seidlhofer, 2011; Bloomfield & Sharpe, 2020). English serves as the primary medium for international mobility, access to higher education, and participation in globalized labour markets, which heightens the urgency of developing pedagogies that respond to diverse learner repertoires (Canagarajah, 2013; Pennycook, 2017). As a result, ESL/EFL contexts produce a disproportionately large body of research on plurilingual and translanguaging pedagogies, reflecting both the scale of global English-learning populations and the diversity of linguistic backgrounds they represent (García & Li Wei, 2014; May, 2014). In classrooms with learners from diverse linguistic backgrounds, plurilingualism supports effective communication by allowing students to draw on their native languages while developing English. This not only

builds linguistic competence but also bridges gaps in multicultural learning environments (Piccardo, 2018; Oliveira & Ançã, 2009).

Moreover, plurilingualism promotes cultural sensitivity in ESL/EFL contexts. Learners who understand and value multiple languages and cultures are better positioned to develop intercultural competence and appreciate the diversity of their peers and instructors (Vollmer, 2007; Herrera & Murry, 2016).

Plurilingualism also strengthens cognitive development in ESL/EFL learners. Multilingual students often exhibit greater mental flexibility and problem-solving skills, which enhances their capacity to acquire English alongside other languages (Bak & Smith, 2021). At the same time, plurilingual learners demonstrate linguistic resilience, which helps them navigate regional dialects, varied accents, and pragmatic differences in English use across diverse contexts (Payant & Galante, 2022).

Additionally, plurilingual learners benefit from transferable strategies that support continued language acquisition. Their prior experience with multiple languages equips them to adapt to new linguistic challenges, making them more effective language learners even in limited exposure environments such as EFL classrooms. This capacity reinforces both their English learning and their ability to acquire further languages in the future.

Beyond linguistic ability, plurilingualism contributes to empathy and intercultural competence, encouraging learners to understand and respect diverse perspectives (Neuner et al., 2003; Dervin, 2010). Such sensitivity supports tolerance and inclusive interactions, which are essential in multicultural societies (Candelier et al., 2012).

Finally, plurilingualism supports heritage language preservation, especially for ESL learners from multilingual backgrounds. By maintaining native languages alongside English,

learners can sustain cultural connections while also participating in broader social and academic communities (Dulsova, 2012).

In summary, plurilingualism enriches ESL and EFL education by fostering effective communication, cultural awareness, cognitive flexibility, linguistic resilience, transferable learning strategies, and global perspectives. It supports personal growth, professional development, and inclusive practices that align with the demands of diverse, multilingual classrooms.

2.3.3. Multiculturalism

In language education, multiculturalism refers to the recognition and appreciation of cultural and linguistic diversity in learning. It aims to foster an understanding and appreciation of different cultures and languages by creating a supportive learning environment that respects and celebrates student diversity through social inclusion, intercultural understanding, and global citizenship (Kramsch, 2011). Multiculturalism promotes social justice, equity, and inclusivity, preparing students for a globalized and culturally diverse world. Plurilingual and multicultural pedagogies emphasize the development of linguistic and intercultural competencies among students through authentic and meaningful interactions with others (Byram et al., 2002).

Multiculturalism in language education, as discussed by May and Steeler (2011), is grounded in the belief that fostering an understanding and appreciation of various cultures and languages is crucial for creating inclusive and supportive learning environments. Such environments not only respect but also celebrate the diversity of students' backgrounds. Central to this perspective is the promotion of social inclusion, intercultural understanding, and the development of global citizenship skills among learners. This not only enriches their educational

experience but also equips them with the tools necessary to thrive in an increasingly globalized and culturally diverse world.

A key aspect of multiculturalism in language education is the emphasis on social justice, equity, and inclusivity. Educators strive to ensure that every student, regardless of their cultural or linguistic background, has an equal opportunity to access quality education. This commitment to fairness extends to addressing systemic barriers that some learners may face due to language differences or cultural factors, thereby leveling the playing field and promoting equitable educational outcomes.

Plurilingual and multicultural pedagogies, as articulated by May (2009), provide a robust framework for implementing multiculturalism in language education. These pedagogies underscore the importance of developing not only linguistic but also intercultural competencies among students (Kramsch, 2008). This approach recognizes that language learning is not solely about grammar and vocabulary but also about understanding the cultural contexts in which languages are used.

To achieve these goals, educators employing plurilingual and multicultural pedagogies design learning experiences that encourage authentic and meaningful interactions among students from diverse linguistic and cultural backgrounds. Such interactions facilitate the exchange of ideas, perspectives, and experiences, fostering mutual understanding and respect (Yılmaz, 2016). Through collaborative projects, dialogues, and shared cultural encounters, students have the opportunity to develop a deeper appreciation for the complexity of language and culture. This orientation aligns closely with the principles underlying the Action-oriented Approach (AoA) promoted by the Council of Europe in the original Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001) and reaffirmed in the 2020/2021 CEFR

Companion Volume. The AoA positions learners as social agents who mobilize their full linguistic and cultural repertoires to complete meaningful, goal-oriented tasks in real-world contexts, and it naturally complements plurilingual and multicultural pedagogies (Piccardo & North, 2020).

Although the AoA provides a rich pedagogical lens that resonates with the values of this study, it does not constitute the primary analytical or methodological framework guiding this research. Instead, the present study is grounded in Critical Participatory Action Research (discussed in chapter 3), which emphasizes collaborative knowledge-building, reflexive inquiry, and the co-construction of learning environments that respond directly to learners' lived experiences. While the AoA and CPAR share commitments to agency, engagement, and authentic communication, the current research draws more directly on CPAR to understand how learners negotiate identity, agency, and participation within a Seamless Learning Environment.

In summary, multiculturalism in language education is a holistic and inclusive approach that celebrates the cultural and linguistic diversity of students. It is grounded in principles of social justice, equity, and inclusivity, preparing learners for a globalized world (Kramersch, 2008). Plurilingual and multicultural pedagogies offer concrete frameworks for implementing these principles, emphasizing the development of linguistic and intercultural competencies through authentic interactions and experiences (Kramersch, 2008; Dervin, 2010; Kramersch, 2011). These theoretical and conceptual frameworks provide valuable guidance for educators committed to creating culturally rich and inclusive language learning environments (Morgan & Seed, 2020).

The literature reviewed in this chapter positions Seamless Learning Environments (SLEs) as an integrative framework for reimagining language education in a globalized, digital era with SLEs providing the integrative structure through which these perspectives are enacted. Within an SLE, emerging technologies function as the enabling infrastructure that supports continuity across

learning contexts, times, and spaces, while principles of Universal Design for Learning (UDL) guide the design of accessible and flexible learning experiences for diverse learners. At the same time, plurilingual and multicultural pedagogies are embedded within the SLE to recognize learners' linguistic repertoires and cultural identities as resources for communication and meaning-making. These elements interact with autonomy-oriented approaches that foreground learner agency and self-regulation, resulting in a pedagogical ecosystem in which adult ESL/EFL learning is understood not as a series of isolated instructional events, but as a continuous, socially mediated, and technologically supported process grounded in real-world communicative practice.

Applying a critical lens to this scholarship further highlights persistent challenges such as structural inequities, neoliberal policy pressures, Anglo-centric norms, digital divides, and misalignment between emerging technologies and pedagogical realities. These tensions underscore the need for research that examines how inclusive, technology-enhanced learning environments can be intentionally designed to empower and support autonomy, equity, and meaningful engagement for multilingual adult learners.

Within this broader landscape, my study aims to contribute to the field by examining how adult ESL/EFL learners in Canada experience, negotiate, and enact learning within an SLE that integrates these pedagogical commitments. Specifically, 1. Enhancing motivation and engagement through continuous, multimodal learning opportunities; 2. Supporting social constructivism and distributed cognition through collaborative, digital, and context-rich activities; and 3. Identifying promising practices for equitable and inclusive SLE design, particularly for socio-culturally diverse adult learners.

By centering learners' lived experiences, this study addresses a notable gap in the literature which is the limited empirical work exploring SLEs as *holistic, culturally responsive, and equity-*

oriented ecosystems, rather than merely technological configurations. The findings aim to contribute to the development of technologically enhanced language learning models that are not only seamless and accessible, but also attuned to questions of power, identity, learner agency, and real-world communicative needs. This synthesis provides literary and critical foundation for the theoretical, conceptual and methodological choices guiding this research.

The following chapter outlines the theoretical and conceptual orientations used to situate the research questions previously introduced. It explains how the study operationalizes the commitments to learner autonomy, equity, plurilingualism, and technology-enhanced learning identified throughout the literature, and how these commitments shape the study's approach to data collection and analysis.

3. Theoretical and Conceptual Frameworks

Building on the integrated perspectives discussed in the previous chapter, this chapter presents the theoretical and conceptual frameworks that guide the design and analysis of the present study. The theoretical framework underpinning this research is social constructivism, which conceptualizes learning as a socially mediated, context-dependent process in which knowledge is actively constructed through interaction with others, engagement in meaningful activity, and participation in culturally and technologically situated practices. This theoretical stance is particularly relevant to the study of language learning in digitally mediated environments, as it foregrounds the role of social interaction, collaboration, and shared meaning-making in the development of linguistic competence, motivation, and engagement.

In addition to this theoretical foundation, the study is informed by distributed cognition as a conceptual framework. Distributed cognition extends social constructivist perspectives by

offering a way to examine how cognitive processes are not confined to individual learners but are distributed across people, tools, artefacts, and environments. Within the context of a Seamless Learning Environment (SLE), distributed cognition provides a lens for analysing how learning activity unfolds across multiple contexts, devices, and interactions, and how digital and material artefacts mediate learners' engagement with language tasks over time.

Together, social constructivism and distributed cognition provide complementary but distinct perspectives for examining learning within an SLE. Social constructivism establishes the theoretical foundation for understanding learning as a socially situated and participatory process, while distributed cognition offers a conceptual means of tracing how this process is enacted across interconnected learners, technologies, and contexts. Framed in this way, the chapter clarifies how these frameworks inform the analysis of adult ESL/EFL learners' motivation, engagement, and participation within mobile, seamless, and collaborative language learning environments.

3.1. Theoretical Framework: Social Constructivism

Constructivism, in general, is an umbrella term that covers a wide range of overlapping philosophies that have in common their rejection of the traditional model of knowledge transmission from the teacher as the source and the student as an empty container. The constructivists believe that students should not be viewed as passive receivers of knowledge but rather they are active thinkers with emerging understandings of the world, and they will form and 'construct' their own knowledge based on their cognitions and experiences (Brooks & Brooks, 1993; Johnson, 2003). Kukla (2000) explains that constructivism is categorised as a thesis in epistemic relativism due to the underlying foundational assumptions that it takes an ontologically relative approach to 'entities and process'. In other words, it does not accept scientific research as "manifestations of objectively existing entities" (p.16) and that the standards against which the

validation of post hoc scientific research methods is measured, are not universally accepted concepts or evidence (Nelson, 1994; Kukla, 2000). Subsequently, as Kukla (2000) further suggests, what is perceived as 'Knowledge' and perception of 'existence' is relative to the entity through which the transition of concepts from abstract thought to reality is formulating, and there is no universal concept of 'truth' or absolute 'knowledge.' Within the context of the present study, these epistemological assumptions underpin an understanding of learning as an active and situated process, where engagement and motivation are not transmitted by instructional design alone but emerge through learners' interactions with content, peers, and digital environments within a Seamless Learning Environment.

Piaget (1968) posits that learning is a dynamic process with multiple stages transforming cognitive symbolic representation to reality, where learners actively "construct knowledge" by experimenting and testing their own theories about the world (p. 8). The application of this philosophy in education is founded on the concept that learners possess intrinsic motivation and are largely autonomous, due to the fact that their understanding of the existing concepts is subject to significant restructuring, aligned with their personal experiences (Perry, 1999). The teaching theories of constructivism "are explicitly concerned only with individual cognitive processes, not with interpersonal dynamics" (Davis, 2004, p. 141). This means that while constructivism aims to empower learners by reducing their passive role in shaping their own cognition, it is based on individualistic views of understanding, knowledge, and existence, an emphasis that becomes increasingly limited when learning is examined in socially interactive and technologically mediated environments. According to its epistemology, learning, knowing, and being are isolated and take place on an individual level, without any influence from external factors.

As a result, influenced by the collective societal structures of communism in the Soviet Union and guided by the philosophy of cognitive constructivism, post-revolutionary psychologist Lev Vygotsky (1896–1934) proposed the concept of Social Constructivism, reframing learning as a fundamentally social process rather than an exclusively individual one. Although Vygotsky was a cognitivist, he rejected the underlying notion that learning takes place in isolation from its social contexts. He claimed, as Davis (2004) affirms, that “internalized thought is something that must be learned; it is not there early in life. A child’s first symbolic performances are completely public, acted out, even to and for themselves. These operations come to be internalized only slowly, from the outside to the inside, from culture to the individual” (p. 142). Therefore, Vygotsky considered cognition as having originated in social interactions and interpersonal processes, proposing that learning does not simply consist of amalgamation and re-structurization of knowledge by individuals but rather “language and thought are not independent of one another. Human thought is not reducible to a set of mental processes that occur within the individual, but is mediated by the use of tools, signs, and symbols that are created and used within a specific cultural and historical context” (Vygotsky, 1986, p. 162). Learning, then, is a way for individuals to participate and become part of a collective ‘knowledge community.’ Vygotsky believed that “language and culture play essential roles both in human intellectual development and in human perception of reality” (Kridel, 2010, p. 537). He stresses that “in the process of acquiring language, the child acquires a system of concepts and categories that are determined by the social and cultural experience of the child” (Vygotsky, 1934/1987, p. 55). Language and culture enable people to overcome the limitations to their understanding by filtering concepts through the lens of their socio-cultural and linguistic experiences.

Teaching and learning pedagogies rooted in social constructivism therefore share underlying notions that govern concepts such as reality, knowledge, and learning. For social constructivists, reality is formed through participation and interpersonal interactions of a community where the members collectively invent, reconceptualize and form ‘properties of the world’ together (Kukla, 2000; Kim, 2001). Therefore, reality is not a universally accepted notion or a pre-existing concept to be discovered, but rather it can only exist and be perceived after it is socially constructed by a community. Hence, the process of learning cannot also be perceived as taking place in a vacuum as a result of passive retentions of behaviours through repetition or observation, but rather it is reconceptualized as a social process in which individuals attain knowledge and meaning through interpersonal interactions and social engagement. Knowledge, too, is understood as a socio-culturally constructed paradigm (Ernest, 1999; Kim, 2001), where individuals “create meaning through their interactions with each other and the environment in which they live” (Kim, 2001, p. 3).

Vygotsky (1987) explains that “intersubjectivity refers to the shared understanding that emerges between people during social interaction, which allows for coordinated action and the development of higher psychological functions” (p. 99). Higher psychological functions, such as thought and understanding, are “a result of the interaction between the individual and the environment, which includes other people” (Vygotsky, 1978, p. 89). Meaning is therefore considered an intersubjective notion, formed by interpersonal interaction through the filter of socio-cultural and socio-linguistic arrangements. Knowledge construction is similarly intersubjective, developed through the various social, cultural, and community-specific contracts unique to their respective communities. Knowledge cannot be constructed individually but rather is the product of collaborative ‘co-construction.’ As Kim (2001) observes, “when the members of

the community are aware of their intersubjective meanings, it is easier for them to understand new information and activities that arise in the community” (p. 4). This intersubjective interaction to attain significant learning, construct meaning, and understand reality within their context by a particular community is “purposeful,” “driven by needs,” “mediated by specific tools,” and rooted in an established community (Davis, 2004, p. 142).

Social constructivism considers the context of learning and the social and personal experiences that learners add to the learning environment to be of equal importance. As Kim (2001) explains, there are four general perspectives that facilitate learning experiences and environments from a social constructivist perspective: cognitive tools perspective, idea-based perspective, pragmatic approach, and transactional perspective.

Cognitive tools, Vygotsky (1978) explains, “enable individuals to transcend their immediate experiences and to engage in abstract and hypothetical thinking” (p. 163), a process that becomes especially visible in digitally mediated learning environments where tools actively shape learners’ engagement, interaction, and meaning-making across contexts. This perspective emphasizes engaging learners in social activities designed to enhance cognitive skills and strategies, such as activities that often involve hands-on projects, problem-solving tasks, and the use of discipline-specific tools to construct meaning and extend knowledge through collaborative processes. While traditionally associated with tangible forms of knowledge production, the concept of cognitive tools extends naturally to contemporary digital environments.

In digitally mediated learning spaces, technological tools function as modern cognitive tools. They scaffold higher-order thinking, facilitate multimodal meaning-making, and enable learners to participate in complex collaborative tasks that would not be possible through individual effort alone. This continuity between Vygotskian theory and digital pedagogies is central to the

present study, as it positions online, multimodal, and seamless learning environments as contemporary expressions of the same mediated cognitive processes that underpin social constructivist learning.

The idea-based perspective focuses on prioritizing what is important for each concept and learning objective in various disciplines, with the aim of guiding learners to expand their foundational knowledge through broader concepts and their socially constructed meaning (Gredler, 1997, cf. Kim, 2001, p. 5). In other words, it emphasizes that education is not just about memorizing facts and figures but about grasping the underlying ideas and the ways in which they are shaped and given meaning within a social context.

The pragmatic or emergent approach suggests that social constructivist activities in the classroom can be implemented based on need and emergent opportunity or demand (Cobb, 1995; Gredler, 1997). This perspective allows the learner to create hypotheses and understandings unique to themselves, as well as collectively understood by their community, thereby enabling the learner to form an epistemology and ontology of the world unique to their individuality, aligned with what they articulate within the constructs of their established community.

The transactional or situated cognitive perspective focuses on humans as a part of their constructed environment of social-cultural and interpersonal relationships. As Vygotsky (1978) explains, “cognition is not an individual, static phenomenon but rather a dynamic, situated, and social process. The structure of cognitive processes reflects the structure of social relationships and activities, and cognitive development is intimately connected with social and cultural practices” (p. 79). In other words, the environment can become an attribute of the compendium that constitutes the individual (Bredo, 1994; Gredler, 1997; Kim, 2001). Hence, if we assume that the formation of abstract thought is influenced by the environment, then changes to the

environment, the people, and their interpersonal relations can affect changes in the individual and the process of their metacognition.

The common element between these perspectives in teaching and learning models of social constructivism is their shared emphasis on the collaborative construction of knowledge and the creation of meaning within the communities of learners and practitioners. Research underscores that a society's practical knowledge is intrinsically dependent upon the interactions between community members, their actions, and the broader social and economic fabric of the communities in which they operate (Lave & Wenger, 1991; Kim, 2001). Social constructivist pedagogies adopt approaches that bring practitioners and learners into the same space, treating them as integral members of the community of learners. This entails fostering collaborative knowledge construction, joint practice, reciprocal teaching, and peer-to-peer knowledge sharing (Shunk, 2000; Kim, 2001).

From a social constructivist perspective, the discussion that follows does not evaluate the effectiveness of a specific platform, but illustrates how socially mediated interaction, collaboration, and shared meaning-making can be supported within a seamless mobile learning environment. The application of social constructivism in the development of a seamless mobile learning platform is driven by this shared emphasis on collaborative knowledge construction and community-based learning. This theoretical framework underscores the importance of learners and practitioners actively participating in the creation of meaning within their communities. One key rationale for utilizing social constructivism as a foundational framework for the platform lies in the recognition that practical knowledge within a society is intricately tied to the interactions among community members. Researchers such as Ng and Nicholas (2013) and Al-Hunaiyyan et al. (2017) have highlighted that creating a sustainable mobile learning platform that supports social

metacognitive learning is dependent upon pedagogies aligned with social constructivist theories of teaching and learning.

In practical terms, the mobile learning platform is designed to foster an environment where learners and practitioners can collaborate in constructing knowledge. By bringing these two groups into the same virtual space, the platform treats them as integral members of a learning community. This inclusivity is vital for creating an atmosphere that supports collaborative knowledge construction, joint practice, reciprocal teaching, and peer-to-peer knowledge sharing. The collaborative nature of these activities aligns with the principles of social constructivism, emphasizing the active involvement of both educators and learners in the learning process.

Moreover, the mobile platform serves as a facilitator for meaningful interactions among users. It recognizes the intrinsic dependence of practical knowledge on the ongoing exchanges and interactions within the learning community. By integrating real-world contexts into the learning experience, the platform enables users to relate their knowledge to the broader social and economic aspects of their communities. This contextualization enhances the relevance and applicability of the knowledge being constructed, aligning with the social constructivist notion that learning is situated and embedded in the real-world context.

In essence, the application of social constructivism to the mobile learning platform is driven by the desire to create an engaging and collaborative virtual learning community. This community, where practitioners and learners coexist, actively contributes to the construction of knowledge through shared experiences, interactions, and a collective understanding of the subject matter. By leveraging mobile technology to facilitate these social and collaborative practices, the platform aims to provide a dynamic and effective learning environment that aligns with the principles of social constructivist pedagogies.

3.2. Conceptual Framework: Distributed Cognition Framework for SLE

The Distributed Cognition framework was originally developed by Hollan, Hutchins and Kirsh (2000) in response to research efforts in understanding cognitive systems and human-computer interactions. They posit that the definition of cognition “extends the reach of what is considered cognitive beyond the individual to encompass interactions between people and with resources and materials in the environment” (Hollan et al., 2001, p. 1). In this framework, the authors emphasizing that understanding “human cognitive accomplishments” and designing “effective human-computer interactions” is vitally dependent upon comprehending the nature of distributions in cognitive processes (ibid, p. 3). Hence, the authors propose three attributes to cognitive processes: “they are distributed across the members of the social group; they are distributed over time; and the operation of a cognitive system involves coordination between internal and external (material or environmental) structure” (Looi et al., 2010, p. 6), a formulation that is particularly relevant for examining learning activity within technology-mediated, seamless learning environments.

Distributed cognition framework challenges traditional views of cognition by proposing that cognitive processes are not confined to an individual's mind but are instead distributed across various elements within a system. At its core, this framework considers cognition as an extended and shared activity that involves interactions between individuals, tools, artifacts, and the environment. One key principle is the notion of embodiment, recognizing the role of the body in cognitive processes and how thinking extends beyond the boundaries of the brain to include physical interactions with the surroundings (Osbeck & Nersessian, 2014; Heersmink & Knight, 2018).

Central to the framework of distributed cognition is the recognition of external tools and artifacts as integral constituents of cognitive processes, assuming a pivotal role in shaping and extending cognitive capabilities. Emphasizing the inherently social nature of cognition, the framework underscores that learning and problem-solving are collaborative endeavors, necessitating effective communication, cooperation, and shared understanding among individuals. An indispensable facet of distributed cognition lies in its meticulous consideration of socio-technical systems, thereby acknowledging the pervasive influence of both social interactions and technological elements. This perspective posits that cognitive processes are distributed not merely across individuals but also across the tools they employ and the encompassing sociocultural milieu, thus adopting an ecological stance. It entails an examination of how cognitive systems adapt and function within specific contextual parameters, accounting for the dynamic interplay between individuals, artifacts, and the environment (Angeli, 2008; Ng & Nicholas, 2013; Al-Hunayyan et al., 2017). This ecological view of cognition aligns closely with the present study's focus on how learner engagement and participation are shaped through interactions among individuals, digital tools, and learning contexts within an SLE.

In contemporary learning environments, this adaptive interplay becomes even more consequential as artificial intelligence increasingly mediates how learners access, interpret, and construct knowledge. Matson (2025) argues that AI technologies are not simply augmenting human cognition but are transforming epistemic processes in ways that challenge traditional conceptions of knowledge, learning, and agency. From this posthumanist perspective, the distributed nature of cognition expands to include algorithmic systems as co-participants in meaning-making, necessitating an educational response that embraces, and not resists, the shifting boundaries between human and nonhuman actors. This transformative lens underscores the

relevance of Distributed Cognition to the present study, particularly in understanding how SLEs and technology-enhanced practices mediate cognitive processes within digitally saturated learning environments.

In practice, the distributed cognition framework has demonstrated utility across a spectrum of disciplines, including education, human-computer interaction, and workplace design. In educational settings, it elucidates the design of collaborative learning environments that strategically leverage both social interactions and technological tools to augment cognitive processes and facilitate knowledge construction. By transcending the confines of individual cognition, this framework furnishes a comprehensive elucidation of the intricate interplay of cognitive activities across individuals and their ambient milieu, thereby supporting analyses of collaborative learning and engagement in complex learning environments

Seamless Learning requires a platform where learning can take place in a virtual or physical space, mediated by technology, and artefacts can be created in private and collaborative spaces, across time and contexts (Sharples, 2006; Chan et al., 2006). Therefore, distributed cognition can provide a framework in examining how learners construct knowledge individually and collaboratively through their interactions with tools, their community, artefacts and the environment, across time and space, mediated by digital technology (Seow et al., 2009; Looi et al., 2010; Otero et al., 2011; Wong et al., 2012; Laru & Järvelä, 2015; Song & Kong, 2015).

In the realm of designing mobile learning environments, online platforms for social collaborative language education, and inquiry-based learning, extant research has discerned crucial components that underpin seamless learning environments. Notably, these components encompass community, space, time and context, as well as cognitive tools and artefacts, thereby substantiating the theoretical framework grounded in the tenets of distributed cognition for seamless learning

(Kukulska-Hulme & Viberg, 2018). Consequently, Kukulska-Hulme and Viberg (2018) emphasize that in mobile collaborative language learning, from a design and analytical perspective, where the mobile technologies are instrumental in fostering collaborative learning between second and foreign language students, there are key design elements that critically contribute to effective and optimal language learning; key elements such as flexible use, timely feedback, customization, socialization, personal assessment, active participation, peer coaching, external sources of inspiration, and cultural representation.

Additionally, seamless learning has the potential to maintain a continuous meaning flow despite alterations in physical and social contexts. As Sharples (2015) posits, inducing a flow state wherein learners lose awareness of their environment across different contexts, necessitates a well-organized learning structure for the seamless integration of diverse learning environments.

Moreover, Hwang et al. (2011) underscore the role of mobile technologies in providing ubiquitous learning and opportunities for amalgamating resources from the real and digital worlds. To re-iterate, according to the distributed cognition conceptual framework, designing a mobile seamless learning environment that supports an effective learning experience, is dependent upon design elements that support both the social-collaborative human interaction as well as the technological interphase. The platform design must incorporate technological components that facilitate seamless transitions between spaces and contexts, free of time constraints, as well as support socio-cultural and interpersonal communication while providing an innovative platform to learn and assess, underscored by due consideration for cultural diversity and the evolving educational landscape (Milrad et al., 2013).

Building upon the foundational definitions, seamless learning is construed as the continuous inclusion of learning experiences across formal and informal contexts, individual and

social learning, and real and virtual environments (Wong & Looi, 2011). Within the expansive landscape of seamless learning environments and their underpinning theories, a myriad of studies has converged on elucidating the multifaceted components integral to their design and implementation.

As we progress in this discussion, it is pertinent to delve into a delineation of the key components that resonate within the discourse of crafting an effective mobile seamless learning platform. Drawing on insights from distributed cognition, collaborative language learning, and seamless learning studies, a comprehensive understanding emerges, informing the foundational elements that coalesce to shape an innovative and pedagogically sound seamless learning experience. Wong (2012) and Yetik et al. (2020) allocate ten distinct components integral to Mobile Seamless Learning (MLS), encompassing a spectrum of dimensions of the learning experience:

MSL1: Encompasses both formal and informal learning modalities.

MSL2: Integrates personalized and social learning experiences.

MSL3: Operates seamlessly across temporal boundaries.

MSL4: Extends its operation across diverse geographical locations.

MSL5: Facilitates ubiquitous access to learning resources.

MSL6: Integrates the realms of both physical and digital worlds.

MSL7: Involves the combined use of multiple types of devices.

MSL8: Allows for seamless switching between various learning tasks.

MSL9: Encourages knowledge synthesis.

MSL10: Encompasses diverse pedagogical and learning activity models.

Hierarchical Mapping of MSL Principles to Social Constructivism and Distributed Cognition according

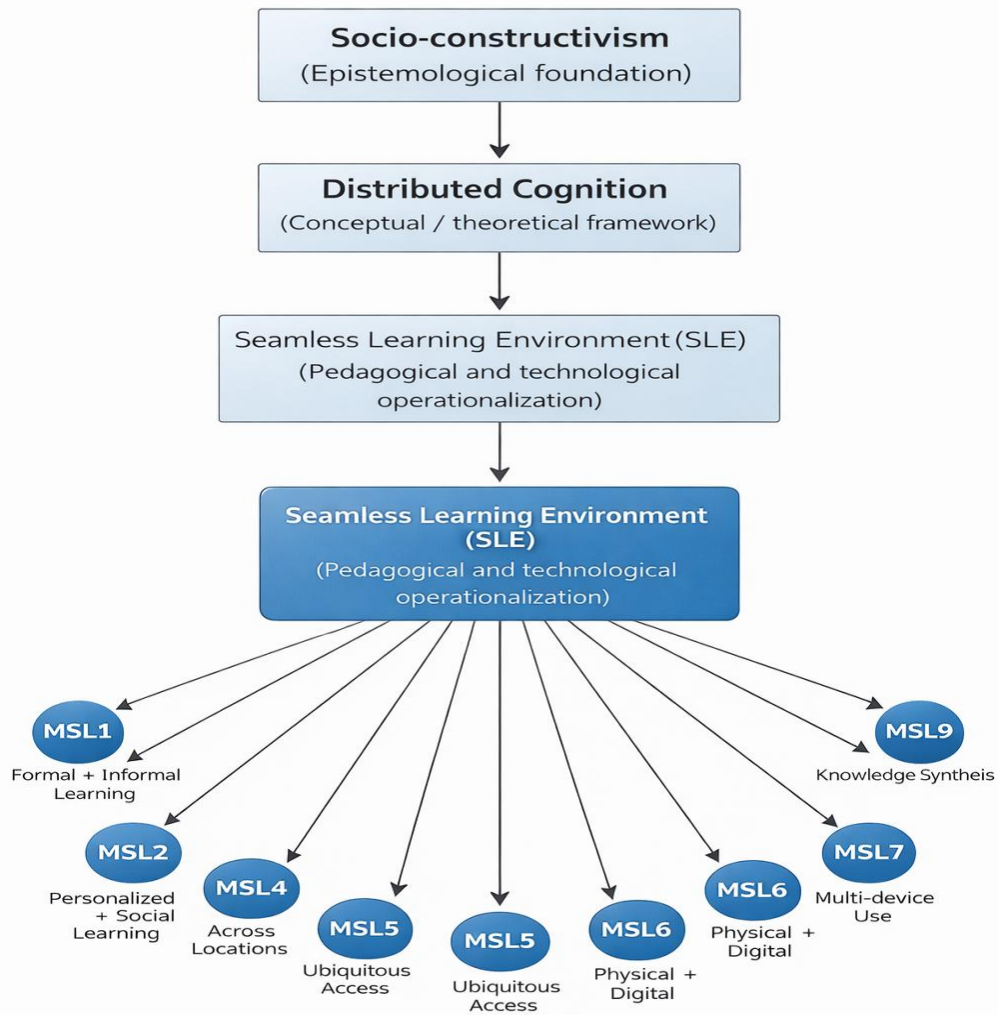


Figure 3. Hierarchical relationship between socio-constructivism, distributed cognition, and Mobile Seamless Learning (MSL) principles within a Seamless Learning Environment.

Note. This figure illustrates the hierarchical alignment of the study’s epistemological foundation, conceptual framework, and pedagogical operationalization. Socio-constructivism serves as the epistemological foundation informing how knowledge is socially constructed. Distributed cognition operates within this paradigm as a conceptual framework explaining how cognitive activity is distributed across learners, tools, artefacts, and environments. The Seamless Learning Environment (SLE) represents the pedagogical and technological operationalization of these theories, while the Mobile Seamless Learning (MSL) principles (Wong, 2012; Yetik et al., 2020) depict design-level enactments that operationalize seamless learning in practice.

The elements identified by Wong (2012) for mobile-aided seamless learning can be connected to the principles of Universal Design for Learning (UDL) and illustrated through applications in ESL/EFL contexts in the following ways:

1. MSL1: Formal and Informal Learning

UDL Principle: Representation

Connection: Providing both formal and informal learning opportunities reflects UDL's emphasis on multiple means of representation.

ESL/EFL Context: Learners engage with structured online lessons in formal virtual classrooms while also practicing informally in self-regulated environments. This might include participating in online discussions, engaging with authentic media, or practicing language with peers in informal digital spaces.

2. MSL2: Personalized and Social Learning

UDL Principle: Engagement

Connection: Integrating both individualized and collaborative opportunities corresponds to UDL's commitment to flexible pathways for engagement.

ESL/EFL Context: Instruction can be tailored to proficiency levels and preferences, while also encouraging social interactions through language exchanges, collaborative projects, and group discussions that sustain motivation and promote intercultural learning.

3. MSL3: Operates Across Time

UDL Principle: Engagement

Connection: Enabling learning beyond temporal constraints reflects UDL's emphasis on sustaining effort and persistence.

ESL/EFL Context: Asynchronous modules allow learners in different time zones to access content when convenient. Staggered lesson plans and flexible deadlines help self-regulated learners sustain progress over time without being limited by rigid schedules.

4. MSL4: Operates Across Locations

UDL Principle: Engagement

Connection: Supporting learning in multiple contexts reflects UDL's attention to flexible environments that foster sustained interest.

ESL/EFL Context: Learners practice language skills beyond the classroom, engaging in authentic communication during travel, work, or community interaction, supported by mobile applications that bridge diverse geographical contexts.

5. MSL5: Ubiquitous Access to Learning Resources

UDL Principle: Representation

Connection: Ubiquitous access resonates with UDL's call for multiple forms of representation.

ESL/EFL Context: Learners can retrieve materials in different formats (text, audio, video) both online and offline, ensuring equitable access despite variations in device ownership or internet connectivity. This supports autonomy and continuous practice.

6. MSL6: Encompasses Physical and Digital Worlds

UDL Principle: Representation

Connection: Integrating physical and digital modes reflects UDL's emphasis on offering diverse ways of presenting content.

ESL/EFL Context: Educators can blend traditional resources (e.g., printed texts, cultural artifacts) with digital ones (apps, multimedia, online communities), giving learners richer exposure to both linguistic and cultural material.

7. MSL7: Combined Use of Multiple Device Types

UDL Principle: Action and Expression

Connection: Employing varied devices corresponds to UDL's provision of multiple ways to act and express learning.

ESL/EFL Context: Learners can record oral practice on mobile phones, edit texts on laptops, and join collaborative discussions on tablets, thereby demonstrating proficiency through multiple channels and devices.

8. MSL8: Seamless Switching Between Multiple Learning Tasks

UDL Principle: Action and Expression

Connection: Flexibility in task-switching reflects UDL's commitment to learner choice in how they act and express.

ESL/EFL Context: Learners transition smoothly between activities such as listening to podcasts, writing reflective blogs, engaging in peer discussions, or practicing pronunciation with apps, thereby integrating skills fluidly within their study routines.

9. MSL9: Knowledge Synthesis

UDL Principle: Expression

Connection: Encouraging synthesis corresponds to UDL's goal of multiple means of expression.

ESL/EFL Context: Learners integrate their skills through projects that combine reading, writing, and oral communication — for example, producing a multimedia presentation that demonstrates their language proficiency in authentic contexts.

10. MSL10: Encompasses Multiple Pedagogical and Learning Activity Models

UDL Principle: Engagement

Connection: Offering varied pedagogies reflects UDL’s emphasis on providing diverse, flexible approaches.

ESL/EFL Context: Educators integrate methods such as communicative teaching, task-based learning, and project-based instruction, enabling learners to engage with language in ways that reflect their goals, cultural contexts, and preferred learning styles.

MSL Element	UDL Principle	Connection	Application in ESL/EFL
Formal & Informal Learning	Representation	Formal + informal learning reflects multiple means of representation.	Learners alternate between structured lessons and informal digital practice.
Personalized & Social Learning	Engagement	Blending individualized and social engagement supports flexible pathways.	Customized instruction + group projects foster social motivation.
Operates Across Time	Engagement	Extends learning beyond fixed timeframes, sustaining persistence.	Asynchronous learning and flexible pacing maintain engagement.
Operates Across Locations	Engagement	Supports flexible learning across contexts and spaces.	Learners practice language in real-world settings via mobile tools.
Ubiquitous Access to Learning Resources	Representation	Ensures access to varied content forms for equitable learning.	Access to multimodal materials supports equitable participation.
Physical & Digital Worlds	Representation	Combines physical + digital resources to enrich representation.	Combines printed and digital resources for richer learning exposure.
Multiple Device Types	Action & Expression	Enables varied expression through multiple devices and media.	Students demonstrate skills using phones, laptops, and tablets.
Seamless Task Switching	Action & Expression	Allows fluid transitions between learning activities and modes.	Learners switch between tasks like listening, blogging, or speaking.

Knowledge Synthesis	Expression	Encourages synthesis of diverse skills and learning outputs.	Projects integrate reading, writing, and speaking in authentic contexts.
Multiple Pedagogical Models	Engagement	Incorporates varied pedagogies for inclusive engagement.	Task-based + communicative activities reflect learner goals + diversity.

Table 2. Integration of Wong’s (2012) Mobile Seamless Learning (MSL) framework with Universal Design for Learning (UDL) principles and practical ESL/EFL applications.

In essence, the elements of Mobile Seamless Learning (MSL), as identified by Wong (2012), correspond with UDL principles by promoting flexibility, inclusivity, and diverse opportunities for representation, engagement, and expression. In the ESL/EFL context, these elements ensure that learners can access content across time, space, and modes of delivery, while participating in authentic, collaborative, and personally meaningful learning experiences. Within the present study, these MSL elements function as design-level enactments of a Seamless Learning Environment, operationalizing broader theoretical and epistemological commitments.

As previously stated, the cognitive perspectives of the socio-constructivist framework, which serves as the epistemological foundation of this study, state that cognition in individuals is influenced by their interpersonal interactions and learning environment (Bredo, 1994; Gredler, 1997; Kim, 2001). The distributed cognition framework, operating within this socio-constructivist paradigm as a conceptual lens, corresponds to this position by proposing that cognition is distributed among individuals through social collaboration and interactions with their environment and materials (Hollan et al., 2000; Hutchins, 2000). Jointly, these frameworks inform the conceptualization of the Seamless Learning Environment as the pedagogical and technological operationalization of socially distributed learning processes.

Accordingly, the Critical Participatory Action Research (CPAR) methodology, as further discussed in this research, is best suited for investigating the learning processes of adult ESL/EFL

learner communities in a SLE, through a critical reflective collaboration of the researcher and the participants. Consequently, the following section will present the specific research questions that guide this study's exploration.

4. Research Methodology

4.1. Epistemology

Epistemology is a foundational area of philosophy that deals with the nature, scope, and limitations of human knowledge. It examines questions related to the acquisition, justification, and rationality of belief and knowledge, and explores how knowledge is obtained, what counts as evidence, the nature of truth, and how individuals come to know or understand the world (Davis, 2004; Greco, 2017). Social constructivism, as a theoretical framework, is characterized by its epistemological and ontological relativity.

The epistemological dimension of social constructivism underscores the subjective nature of knowledge acquisition, positing that knowledge is actively constructed through social interactions within specific cultural and social contexts (Brooks & Brooks, 1993; Johnson, 2003; Davis, 2004; Aminah & Asl, 2015). This perspective proposes that the definition of knowledge is contingent upon the cultural, historical, and social milieu within which it is conceived, reflecting a relativity in its interpretation based on the unique experiences and perspectives of individuals within a given community or society.

O'Grady (2002) defines ontology as "that part of philosophy which investigates the fundamental structures of the world and the fundamental kinds of things that exist. Terms like 'object', 'fact', 'property', 'relation' and 'category' are technical terms used to make sense of these most basic features of reality" (p. 53). These terms serve as means for understanding the basic

features that constitute the fabric of existence. In essence, ontology seeks to unravel the underlying nature and organization of the world's fundamental elements. Ontological relativity within social constructivism challenges the essentialist notions by asserting that the nature of reality and existence is not fixed but socially and culturally constructed (Kukla, 2000; O'Grady, 2002; Baghramian & Coliva, 2020). This viewpoint contends that what is perceived as real and existent is intricately tied to the socio-cultural lens through which it is observed, emphasizing the dependent nature of reality on the context in which it is situated.

Critical Participatory Action Research (CPAR) serves as a fitting methodology in the context of social constructivism, aligning seamlessly with its epistemological and ontological tenets. In a social constructivist paradigm, Participatory Action Research (PAR) emphasizes collaboration, reflexivity, and the active involvement of participants in the research process (Hendricks, 2012). This methodology, marked by its situational and cyclical nature, accommodates an ongoing and iterative process of reflection and action, thereby resonating with the dynamic and context-dependent nature of social constructivist perspectives on knowledge and reality. Within the framework of social constructivism, PAR acknowledges the socially constructed nature of knowledge and reality, advocating for the importance of engaging with the community and involving participants actively in the research process. The cyclical structure of PAR, comprising planning, acting, observing, and reflecting cycles, mirrors the dynamic and context-dependent nature of knowledge construction and reality interpretation inherent in social constructivist frameworks.

Furthermore, it is important to acknowledge that the perception of knowledge and existence is relative to each individual's unique experience in within the community through which they achieve *Bildung* (Humboldt, 2002), which is a combination of formal educational foundations and

the necessary knowledge required to thrive in one's society (Herdt, 2019). The use of PAR as a research methodology, further discussed below, allows for the critical lens through which the research will be conducted, addressing biases, and acknowledging the involvement of the researcher in the community (Hendricks, 2012). This approach allows for a thorough examination of the unique problems of specific communities from within the structure and promotes the incitement of change.

4.2. Critical Participatory Action Research

Participatory Action Research (PAR) is a qualitative research methodology distinct from other approaches in its democratic, equitable, and emancipatory orientation (McDonald, 2012). Rather than positioning participants as objects of study, PAR seeks to disrupt hierarchical structures by empowering them as co-researchers, working alongside the researcher to identify, analyze, and address issues that directly affect their lives (Boyle, 2012). This renders PAR not merely a methodology but a philosophy of inquiry: a commitment to research as social practice, inseparable from the ethical and political task of transformation.

PAR and Social Constructivism

PAR's foundations resonate strongly with the principles of social constructivism. Like Vygotsky's (1978) assertion that learning is socially mediated, PAR emphasizes knowledge as a product of collaborative inquiry situated in socio-cultural contexts. It actively promotes engagement between researchers and participants, ensuring that knowledge emerges through dialogue and reflection (Stringer, 2013; Armstrong, 2019). Participants become agents in the co-construction of meaning, rather than passive receivers of expertise. The iterative cycles of planning, acting, observing, and reflecting (Kemmis & McTaggart, 2000) correspond with constructivist understandings of learning as a dynamic and ongoing process. Community

engagement anchors this methodology in lived experiences, enabling research to reflect the contextualized realities of language education (Kemmis et al., 2014; Ordem, 2021).

This direct alignment makes PAR an especially suitable methodology for language education, where meaning-making, identity, and cultural negotiation are central. PAR does not simply document language practices; it embeds inquiry within the social contexts in which learning unfolds, offering a method that is pedagogically and politically responsive.

Origins of PAR: Kurt Lewin

The origins of PAR are often attributed to Kurt Lewin (1944), who coined the term “action research” to describe a process of studying and transforming social systems through collaborative problem solving. As Greenwood and Levin (1998) note, Lewin’s model was grounded in generating, interpreting, and testing data within the “field of action” (p. 122). Lewin’s personal history as a Jewish refugee from Nazi Germany informed his concern with discrimination, social integration, and the power of human interactions (McNiff & Whitehead, 2006).

Lewin conceived action research as both analytical and interventionist: research should not merely explain social phenomena but intervene to improve them. This foundational idea continues to inform PAR, situating knowledge production as inseparable from social change. For education, Lewin’s emphasis on collaborative inquiry challenged the separation between theory and practice, setting the stage for methodologies that treat practitioners and learners as knowledge creators rather than consumers.

Expanding PAR: Paulo Freire

The emancipatory dimensions of PAR were expanded through the work of Paulo Freire (1970), who grounded his literacy campaigns in Brazil in the notion that education is a site of struggle over power, voice, and liberation. For Freire, research and pedagogy alike must enable

participants to engage in conscientização, critical reflection on their conditions of oppression, and to act collectively toward transformation.

Freire's influence embedded within PAR a commitment to marginalized communities, emphasizing literacy and education not only as technical skills but as political acts (McIntyre, 2002). This orientation reframed research as a dialogical process of empowerment, challenging the dominance of positivist approaches that claimed objectivity while reinforcing inequality. As MacDonald (2012) explains, PAR offered "an alternative approach to traditional social or scientific research, as it moves social inquiry from a linear cause and effect perspective to a participatory framework that considers the contexts of people's lives" (p. 36).

Freire's praxis-based approach directly informs Critical Participatory Action Research (CPAR)'s relevance to ESL/EFL contexts, where language learning is entwined with questions of identity, power, and cultural legitimacy. Literacy in English, for instance, is not a neutral skill but a gatekeeper to symbolic capital (Bourdieu, 1992), shaping learners' access to education, work, and civic life. PAR enables these inequities to be critically interrogated from within learners' own communities.

From PAR to CPAR

As PAR evolved, it became increasingly intertwined with critical epistemologies such as feminism, critical race theory, and queer theory, each highlighting how research could serve not just as a method of inquiry but as a means of social struggle (Maguire, 1987; McTaggart, 1991). Across these variations, a shared commitment persisted: developing critical consciousness, improving participants' lives, and transforming the structures in which they are embedded.

Critical Participatory Action Research (CPAR) crystallized from these traditions as a methodology explicitly oriented toward interrogating and disrupting oppression (Kemmis &

McTaggart, 2014). CPAR positions participants as active examiners of their own practices and social systems, with the aim of identifying injustices and collectively addressing them. As Kemmis and McTaggart (2014) explain, CPAR targets transformation across three dimensions: “(1) what they think and say in their current practice (sayings), (2) what they do in the practice (doings) and (3) how they relate to the other people and things they interact with in the practice (relatings)” (p. 209). In this sense, CPAR is not only participatory research but a “practice-changing practice,” deliberately aimed at altering the conditions of education and society.

CPAR Versus Traditional Educational Research

Traditional educational research has often been characterized by deductive, outsider-driven approaches, where university-based researchers develop universal theories applied to varied contexts (Efron & Ravid, 2013; Mertler & Charles, 2011). Teachers and learners become consumers of external knowledge, tasked with implementing recommendations developed by others. Such models risk generalizing across contexts, overlooking local variables, and creating a separation between theory and practice (Elliott & Norris, 2012).

By contrast, CPAR recognizes that practitioners’ insider knowledge is indispensable. Their understanding of students’ histories, challenges, and aspirations provides insights that cannot be captured by external observation alone. As Efron and Ravid (2013) explain:

Understanding of students’ social and historical circumstances and knowing their past and present successes and failures, fears, and dreams enable the practitioners to gain insight into their students’ worlds... Action research offers a new relationship among the areas of practice, theory, and research that blurs the boundaries between each of them. (p. 4)

This blurring of boundaries redefines practitioners as producers of knowledge, responsible for framing their own questions, conducting inquiries, and critically engaging with their biases

(Cochran-Smith & Lytle, 2009; Hendricks, 2012). CPAR is thus constructivist (Holly et al., 2009), situational (Mertler, 2012), practical (Dana & Yendol-Hoppey, 2009), systematic (Efron & Ravid, 2013), and cyclical (Johnson, 2011).

Challenges and Critiques

While CPAR aspires to equity, scholars caution against romanticizing its potential. Community participation is voluntary and may carry socio-economic risks for participants, who often contribute without compensation (Smith, 2012). Power imbalances may persist, whether between researcher and participants or within communities themselves, shaped by race, gender, class, or education (Manathunga, 2007; Irizarry & Brown, 2014). As Ayala (2009) notes, CPAR is not a “miracle drug” (p. 82), and researchers must remain vigilant against reproducing disempowering dynamics.

Sonowski et al. (2021) highlight the diversity of CPAR practices: some adopt formalized data collection and theoretical frameworks, while others use more flexible, collaborative models. Even terminology differs, with some researchers using “co-researcher” and others “partner” or “collaborator,” reflecting sensitivities around power and representation. Such variability underscores Torre et al.’s (2012) reminder that “there is no single way to conduct critical PAR” (p. 175).

These challenges make reflexivity crucial. CPAR requires not only methodological rigor but ethical attentiveness, ensuring that power is used with rather than over participants (Irizarry & Brown, 2014).

CPAR, Language, and Power

Language education provides a critical arena for CPAR’s application, as language functions simultaneously as communication, identity, and power. Bourdieu (1992) describes

language as “linguistic capital,” conferring symbolic authority on those who master dominant forms. In Anglo-centric societies, English proficiency is both a resource and a gatekeeper, determining access to economic mobility and civic participation.

Reason and Bradbury (2006) emphasize the importance of scrutinizing how language creates shared realities and sustains structures of power. Stoudt (2009) similarly argues that “language and discourse are political and emergent; they are the ways by which we co-construct meaning and knowledge” (p. 9). CPAR provides a framework to interrogate how linguistic privilege operates and to empower learners in reclaiming agency over their language experiences (Eder et al., 2001).

In ESL/EFL education, this is particularly urgent. English language curricula are often shaped by neoliberal ideologies that commodify English as a skill and Western culture as a product (Bernstein et al., 2015). Teachers are positioned as replaceable labor, and learners as passive consumers in the global education market. Yet, as Bernstein et al. (2015) note, learning English can be both “oppressive and liberatory” (p. 13): a means of reproducing hegemony, but also of speaking back against it.

CPAR enables learners and educators to critically examine these dynamics from within. By positioning participants as co-researchers, CPAR creates opportunities for resistance, agency, and transformation in language education.

Relevance to the Present Study

For this study, CPAR provides a methodology that is both philosophically and practically aligned with its aims. ESL/EFL learners in Canada face the dual pressures of linguistic integration and systemic inequities. A CPAR approach allows these learners to act not as passive recipients of instruction but as active participants in shaping their learning environments.

Moreover, CPAR resonates with the guiding theoretical frameworks of this research—social constructivism and distributed cognition—by treating knowledge as socially situated, collaboratively produced, and mediated by tools, language, and culture. Within the seamless learning environment (SLE) examined here, CPAR supports a process where participants and researchers co-construct practices that address inequities and foster inclusion.

In this way, CPAR is not simply a methodological choice but a political and pedagogical commitment: to conduct research that is accountable to participants, responsive to context, and capable of advancing social justice in and through language education.

4.2.1. Researcher Positionality and Relational Engagement in the SLE

My role within this study was neither singular nor easily bounded. I entered the Seamless Learning Environment (SLE) as a researcher, but in practice, I became simultaneously an instructor, facilitator, mentor, administrator, and a consistent source of both academic and emotional support. Over approximately 14 months, I engaged with participants for five to seven hours per week, in addition to regular face-to-face interactions through informal gatherings such as coffee chats. While I had no prior relationship with participants at the outset, the sustained and immersive nature of this engagement led to the development of deeply relational, trust-based connections that extended beyond conventional researcher-participant boundaries.

I did not experience myself as external to this community, but rather as an integrated part of it. As a first-generation immigrant and a language learner, I shared, in different ways, aspects of the lived realities that participants were navigating. This positioning shaped not only how I related to participants, but also how I understood and interpreted their experiences. It allowed for moments of genuine empathy and connection, while also requiring careful and ongoing reflexivity to ensure that my own experiences did not overwrite or simplify the complexities of theirs.

Working closely with adult ESL/EFL learners, many of whom were newcomers to Canada managing work, family responsibilities, and the challenges of adapting to a new educational system, placed me in an emotionally demanding and ethically delicate space. In supporting participants, I often found myself helping them navigate barriers that were external to the learning environment itself. At times, my role extended into forms of support that resembled mentorship and elements of social guidance. This depth of engagement provided me with a nuanced understanding of the extrinsic factors shaping motivation and engagement, while simultaneously positioning me within the very system I was seeking to study and reshape.

Importantly, I did not occupy a position of formal authority. There was no grading or evaluative structure imposed upon participants. I intentionally positioned myself as a collaborator and supportive presence, prioritizing learner autonomy, agency, and self-directed growth. However, this relational positioning did not render me neutral. My presence, emotional proximity, and active involvement inevitably influenced both the learning environment and the data generated within it.

This influence became particularly visible in the contrast between formal and informal data collection. While participants were aware of interviews and focus groups, their responses in these contexts were often more contained. In contrast, more vulnerable, complex, and contextually rich insights emerged through ongoing interactions within the SLE and informal conversations, where participants appeared more comfortable sharing the realities of their learning experiences. As such, the knowledge generated in this study is understood as co-constructed through sustained, relational engagement rather than extracted through discrete data collection moments.

Central to this process was an ongoing, iterative practice of reflexivity, consistent with the principles of Critical Participatory Action Research. I continually reflected on my role, my

assumptions, and my shifting position within the research context, moving between moments of participation, support, and critical observation. This reflexive process was not separate from the research, but embedded within it, shaping both the evolution of the learning environment and the interpretation of the data. My positionality, therefore, is not framed as a source of bias to be minimized, but as an integral and generative component of the research process that both influenced and enabled the insights presented in this study.

4.3. Research Method

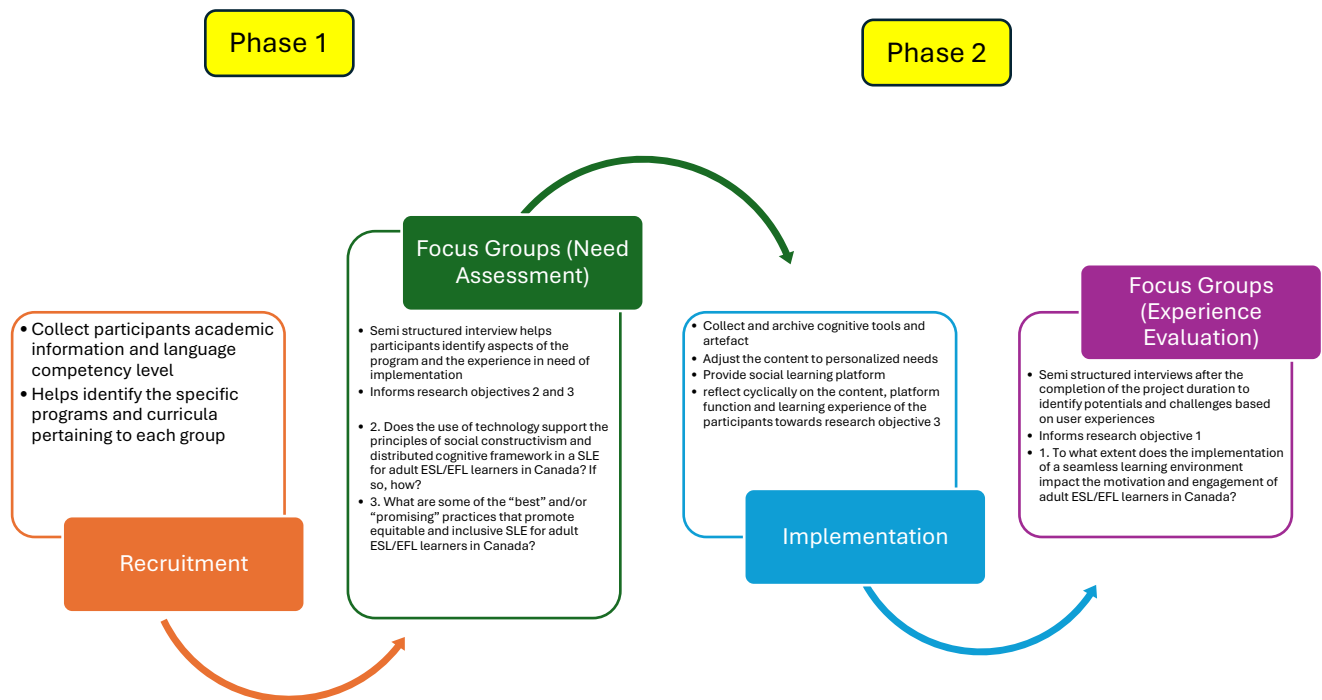


Figure 4. Research Method Procedure Flow Chart

4.3.1. Participation and Recruitment

The recruitment process emphasized transparency and the voluntary nature of participation, ensuring that prospective participants were fully informed about the research objectives and their

rights as research participants. Particular care was taken in this process, as prospective participants were adult language learners who were not always equipped with the linguistic proficiency or familiarity with research practices required to fully understand the scope and implications of participation. To ensure adherence to ethical guidelines and standards for research involving human participants, ethics approval was obtained from the University of Ottawa (see Appendix B – REB Approval). This rigorous recruitment approach reflects a sustained commitment to ethical conduct and participant welfare throughout the research process.

Participation in both the Seamless Learning Environment (SLE) and the associated research activities was entirely voluntary. Participants were required to sign or verbally agree to an informed consent form indicating their agreement to participate in the study and to allow the use of anonymized data in future research and publications (see Appendix C – Consent Form).

Eligibility criteria for participation were as follows:

- Be 18 years of age or older.
- Be enrolled in an ESL/EFL program in Ottawa at the pre-intermediate, intermediate, or upper-intermediate level (A2, B1, or B2).
- Have access to a mobile device with high-speed Internet.
- Be willing to participate in the SLE for approximately five hours per week for the duration of the academic semester, in alignment with their formal studies.
- Adhere to the Students' Code of Conduct for online learning (see Appendix D – SCC).

Given that the SLE functioned as a collaborative and publicly visible online learning forum, particular attention was paid to issues of identity, disclosure, and participant privacy. In this study, participants were intentionally afforded control over the extent to which they disclosed personal, linguistic, or cultural background information. While limited participant profiles are

referenced where analytically relevant, no formal demographic data were collected. This decision reflects a commitment to true anonymity, defined here as a research design in which no identifying or indirectly identifiable personal data are collected, stored, or linked to participant contributions at any stage of the research process. Unlike confidentiality, which permits the collection of identifiable information that is subsequently protected, true anonymity eliminates the possibility of re-identification altogether.

This approach was adopted for several reasons. The participant cohort was relatively small and socially interconnected, increasing the risk that demographic descriptors could enable indirect identification. Additionally, because the SLE operated within a public online environment, allowing participants to determine what personal information, if any, they wished to share was viewed as an empowering ethical practice that supported agency, trust, and psychological safety. Rather than constraining self-representation through predefined demographic categories, participants retained control over how they presented themselves within the learning environment. While this choice limited the scope of demographic and intersectional analysis, it represents an intentional ethical trade-off aligned with the study's participatory, learner-centred design.

4.3.2. Data Collection and SLE Implementation

Initially, a total of 62 adult ESL/EFL learners from the University of Ottawa, Carleton University, Algonquin College, and the LINC program expressed interest and provided consent to participate in the study. Due to the intensive time commitment required by the research design (approximately 5 to 7 hours per week) and the sustained engagement expected within the Seamless Learning Environment (SLE), participant attrition occurred during the early stages of implementation. Ultimately, 21 participants completed the study, which corresponds directly to the sample size initially specified in the approved research proposal. While several individuals

who were unable to commit to full participation expressed interest in attending the weekly live social sessions, inclusion in the study required sustained engagement across all components of the program in order to meet the research parameters.

Having completed participant enrollment and progressed through the research, the study transitioned towards a comprehensive needs analysis stage. This pivotal phase entailed a thorough examination of participants' learning objectives, experiences, and preferences within their respective ESL/EFL programs. Prior to commencing the Seamless Learning Environment (SLE), participants engaged in a round of need analysis focus groups, totaling 6 (with 2 to 4 persons in each group for a total of twenty-one participants), to provide valuable insights into their educational needs and aspirations (see Appendix E – Focus Group Questions).

Focus groups, as widely accepted and increasingly more utilized data collection methods, can be used by evaluators to explore individual or group perceptions about a wide range of topics (Krueger 1988; Buttram, 1990). Morgan (1996) defines focus groups as “a research technique that collects data through group interaction on a topic determined by the researcher” (p.130). Additionally, he explains that focus groups, as defined in research parameters, have three essential components. “First, it clearly states that focus groups are a research method devoted to data collection. Second, it locates the interaction in a group discussion as the source of the data. Third, it acknowledges the researcher’s active role in creating the group discussion for data collection purposes” (ibid, p.131).

For the scope of this research, focus groups serve as a multi-tiered process to pre-implementation needs assessment as well as post-implementation validation. As Buttram (1990) explains, “most programs are designed to meet a set of perceived needs, usually for a targeted group of clients. To ensure that program designers clearly understand the needs of the target group,

needs assessments are often conducted, either formally or informally” (p. 207). For this research, it was imperative to assess the needs of the participants, understand their context, and analyse their individual and collective observation of their existing system, before any efforts could be made to enhance and optimize their experiences. Utilizing a semi-structured focus group for the first phase of the research as a needs assessment device confirmed the expectations and learning objectives of the participants’ respective programs as well as discover and determine emergent gaps and opportunities for improvement (Buttram, 1990; Morgan, 1996). The focus groups were conducted primarily in English, as it was the shared instructional language of the participants’ programs. However, recognizing that several participants were still developing confidence in expressing abstract or academic concepts in English, additional strategies were employed to minimize language-related barriers. Participants were encouraged to draw on their full linguistic repertoires, including L1 terms, paraphrasing, or mixed-language explanations, when articulating learning needs and goals. This plurilingual approach facilitated richer and more accurate descriptions of their experiences. When misunderstandings arose, the researcher used clarification prompts, restatements, and reflective listening to ensure meaning was captured accurately.

All communication and participation in the research were conducted virtually, leveraging mediating technology. Focus groups were convened via the ZOOM® application, offering a versatile platform for interaction. The Zoom platform's interface had been meticulously configured to accommodate various operating systems, mitigate challenges related to slow internet connectivity, and ensure multi-device accessibility. This strategic choice ensured reliability and inclusivity, catering to a diverse range of technology literacy and accessibility needs. To uphold confidentiality and security, all recordings were securely saved and encrypted on a personal device and backed up on the OneDrive cloud services from the University of Ottawa. These recordings

then underwent transcription and anonymization, with participants assigned code names to ensure anonymity. The anonymized data was uploaded to NVivo® for coding and analysis. The initial round of data analysis focused on identifying overarching themes related to participants' needs, objectives, and learning experiences. The emergent themes informed the implementation of the learning content in the SLE, based on the participants' shared needs and objectives. The learning content continued to evolve and adapt based on the individual and collective needs and aspirations of the group.

Motivation and engagement, which are central to the study's research questions, were not conceptualized as fixed psychological constructs measured through standardized instruments. Instead, consistent with the Critical Participatory Action Research framework and the study's grounding in social constructivism and distributed cognition, they were understood as relational and context-dependent processes emerging through participants' experiences within the Seamless Learning Environment. While Phase 1 analysis focused on identifying learner needs, goals, and challenges, this conceptualization informed how motivation and engagement were later examined in relation to participants' experiences of participation within the SLE.

Analytically, motivation and engagement were interpreted inductively through qualitative indicators within the data, including participants' reflections in focus groups, their expressed willingness to participate in collaborative and asynchronous activities, and their descriptions of confidence, autonomy, and comfort in using English. In this way, motivation and engagement were not imposed as predefined evaluative categories, but were treated as emergent properties of socially mediated participation, aligning with sociocultural perspectives that position engagement as constructed through interaction and context. This approach is consistent with sociocultural perspectives on language learning, which conceptualize motivation and engagement as socially

situated, dynamic, and shaped through participation, interaction, and evolving learner identities (Dörnyei & Ushioda, 2011; Mercer, 2019; Norton, 2013).

Data analysis from the needs assessment focus groups was utilized to inform the implementation of the SLE for their program. Ideally, the SLE serves as a complementary resource to their established curriculum, providing them with a community forum to share information, discuss their learning interests and experiences, and create indexed, archived and shareable artefacts that would potentially serve as community-created resources for future participants. This platform allows the participants to blur the gaps between their formal and informal learning (Yetik et al., 2020); continue their contextual learning outside of their formal classroom settings (Wong et al., 2012); share authentic, real-world experiences with their peers (Foomani & Hedayati, 2016); and engage in meaningful and effective collaborative learning that directly contributes to their specific context and situation (Wong et al., 2015).

To contextualize how collaborative learning unfolded within the SLE, it is important to briefly outline the profiles of the participants who constituted this learning community. The learner community participating in the SLE reflected a range of adult ESL/EFL profiles, including recent immigrants enrolled in LINC programs, adult learners pursuing postgraduate studies, and professionals seeking to strengthen English for academic or workplace purposes. Levels of English proficiency were set as a requirement for participation in the study, specifically intermediate (A2–B1) and upper-intermediate (B1–B2) levels, based on placement tests administered at the start of participants' formal language programs within their respective institutions. Although no formal demographic data were collected through questionnaires or structured instruments, aspects of participants' backgrounds were visible through program affiliation, interactional discourse, and participation within the digitally mediated, public-facing learning environment. Participants

represented a diverse range of backgrounds, including Middle Eastern, Asian, and West African, with ages ranging from the mid-20s to the mid-40s. This diversity shaped the processes of interaction and co-construction within the learning environment, as participants brought differing linguistic repertoires, lived experiences, and learning goals into collaborative exchanges. At the same time, participants shared common motivations related to language development and digital engagement, which supported the emergence of a functional learning community despite differences in background.

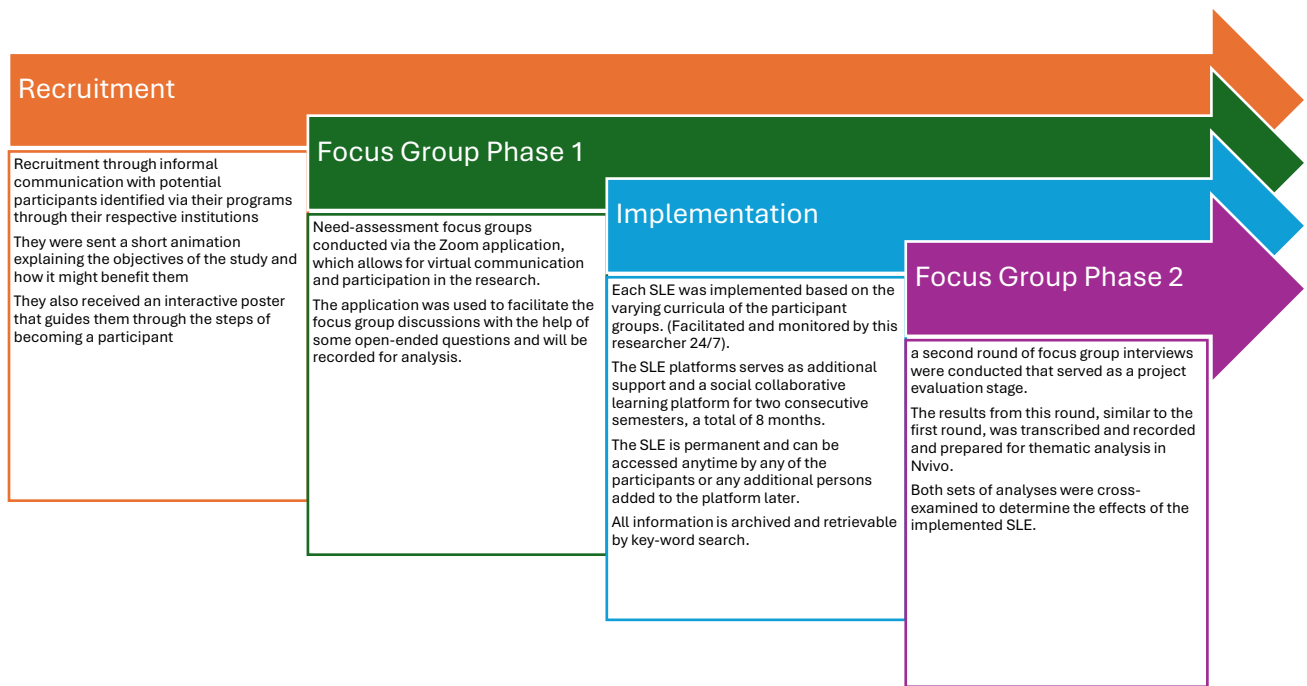


Figure 5. Methodology procedure streamlined chart.

In selecting the social exchange platform for the Seamless Learning Environment (SLE), careful consideration was given to various options to ensure seamless communication and collaboration among participants. After thorough evaluation of available platforms, Telegram emerged as the preferred choice due to its versatile features and user-friendly interface.

Telegram was chosen as the social exchange platform for several reasons, primarily due to its robust features that align with the communication and collaboration needs of adult ESL/EFL learners. One key feature of Telegram is its support for real-time messaging, enabling instant communication and interaction among participants. This real-time functionality fosters a dynamic and engaging learning environment, allowing participants to engage in spontaneous discussions, seek clarification on concepts, and share resources seamlessly.

Additionally, Telegram offers a range of multimedia support, allowing participants to exchange various forms of media such as images, audio files, and documents. This multimedia-rich environment enhances the learning experience by providing diverse resources and facilitating interactive exchanges. Participants can leverage these multimedia features to share supplementary materials, audio recordings for pronunciation practice, and visual aids to reinforce learning concepts.

Moreover, Telegram's group chat functionality provides a centralized platform for participants to engage in group discussions, collaborative activities, and peer support. The ability to create dedicated chat groups for different topics or learning objectives allows for targeted discussions and focused collaboration. This group chat feature promotes community building and peer learning, fostering a sense of camaraderie and support among participants.

Furthermore, Telegram offers advanced security and privacy features, ensuring a safe and secure communication environment for participants. End-to-end encryption protects messages and media shared within the platform, safeguarding sensitive information and ensuring confidentiality. This security feature instills trust and confidence among participants, encouraging open and candid communication within the SLE. Additionally, application features of Telegram, meet the Seamless Learning Environment design criteria, defined by Wong (2012) and Yetik et al. (2020), as follows:

1. MSL1: Encompasses both formal and informal learning modalities.

- Telegram's group chat functionality allows for both formal discussions related to course content and informal conversations among participants, creating a versatile learning environment that accommodates various learning modalities.

2. MSL2: Integrates personalized and social learning experiences.

- Telegram's real-time messaging and multimedia support enable personalized communication and content sharing among participants, while group chat functionality fosters social learning experiences through collaborative discussions and peer support.

3. MSL3: Operates seamlessly across temporal boundaries.

- Telegram facilitates asynchronous communication, allowing participants to engage in discussions and access learning resources at their convenience, regardless of temporal constraints.

4. MSL4: Extends its operation across diverse geographical locations.

- Telegram's cloud-based messaging platform enables participants to connect and collaborate from different geographical locations, promoting inclusivity and facilitating global participation in the learning process.

5. MSL5: Facilitates ubiquitous access to learning resources.

- Telegram's support for multimedia sharing allows participants to access and share a wide range of learning resources, including documents, audio files, and images, promoting ubiquitous access to diverse learning materials.

6. MSL6: Integrates the realms of both physical and digital worlds.

- Telegram seamlessly integrates with participants' physical and digital environments, allowing for the exchange of multimedia content, resources, and discussions that bridge the gap between traditional classroom settings and digital learning environments.

7. MSL7: Involves the combined use of multiple types of devices.

- Telegram's cross-platform compatibility enables participants to access the platform from various devices, including smartphones, tablets, and computers, facilitating flexible and convenient participation across multiple devices.

8. MSL8: Allows for seamless switching between various learning tasks.

- Telegram's intuitive interface and real-time messaging capabilities enable participants to seamlessly switch between different learning tasks, such as participating in group discussions, accessing learning resources, and engaging in collaborative activities.

9. MSL9: Encourages knowledge synthesis.

- Telegram's group chat functionality and multimedia support facilitate discussions and resource sharing among participants, encouraging knowledge synthesis through collaborative learning activities and the exchange of diverse perspectives.

10. MSL10: Encompasses diverse pedagogical and learning activity models.

- Telegram accommodates various pedagogical and learning activity models through its flexible messaging platform, allowing for the implementation of diverse teaching strategies, collaborative learning activities, and interactive discussions tailored to participants' needs and preferences.

Moreover, the application features of Telegram reflect the principles of Universal Design for Learning (UDL) in several ways:

1. Multiple Means of Representation

The platform supports multimedia sharing, allowing information to be presented in text, images, audio files, and documents. This accommodates diverse learning preferences and styles.

2. Multiple Means of Engagement

Real-time messaging and group chats enable interactive discussions, collaborative activities, and peer support, fostering engagement and active participation.

3. Multiple Means of Expression

Learners can demonstrate understanding through written messages, multimedia content, voice notes, and interactive discussions, offering multiple avenues for self-expression.

4. Flexibility and Customization

Customizable settings (e.g., notification preferences, group organization, interface themes) allow learners to personalize their experience and adapt the platform to individual needs.

5. Accessibility Features

Compatibility with screen readers, keyboard navigation, and adjustable font sizes ensures inclusivity for learners with diverse abilities.

6. Consistency Across Devices

Cross-platform access provides a seamless experience across smartphones, tablets, and computers.

7. Support for Collaboration and Peer Learning

Group chat functions promote collaboration by enabling learners to share resources, exchange ideas, and work on projects collectively, reinforcing a supportive learning community.

At the same time, the enactment of these affordances varied across participants, as engagement with specific Telegram features depended on individual digital practices, learning goals, and preferences, and the platform itself did not provide built-in pedagogical scaffolding beyond its flexible communication infrastructure.

In this study, Universal Design for Learning (UDL) principles informed the instructional design and implementation of the SLE within the Telegram platform; however, they did not function as an analytic framework for data coding or theme generation. The codes and emergent themes presented in later chapters were derived inductively from focus group questions and participants' responses, rather than from predefined technological or pedagogical constructs. UDL is therefore revisited in the discussion as an interpretive lens for considering instructional design implications, rather than as a driver of the analytic process.

The SLE was implemented as a self-regulated, social-collaborative learning platform facilitated by me as educator across two academic semesters: Fall 2023 (September 16–December 16, 2023) and Winter 2024 (January 20–April 20, 2024). Beyond the research timeline, the platform continues to serve as a community forum where learners remain connected and share experiences with peers. Following the two semesters, a second round of focus groups was conducted to validate initial needs assessment data. This stage compared participants' experiences before and after the SLE implementation, providing insight into how the platform fostered equity, inclusivity, and overall optimization of learning. The next section presents findings from the data analysis, detailing responses from both pre- and post-implementation focus groups.

5. Phase 1: Data Analysis, Results and Discussion

This segment presents the findings from the data collected through a series of focus groups. The purpose of these focus groups (in phase I) was to explore pre-implementation questions aimed at identifying the most effective practices that best promote equitable and inclusive learning for adult ESL/EFL learners from their perspective and examine how the use of technology supports

the principles of social constructivism and distributed cognitive framework in a SLE for adult ESL/EFL learners.

Hence, each set of data analysis results is followed by a discussion segment, which provides clarity on how the results for each category of questions guide the implementation of a particular instructional design strategy in the SLE, how that strategy corresponds to the personalized learning needs of the participants, and how they represent the principles of UDL and theories of socially distributed cognition. The analysis follows a learner-centric approach, emphasizing the voices and experiences of the participants. A learner-centric approach to instructional design for language learners places the needs, experiences, and goals of the learners at the forefront of the educational process. This approach recognizes that each learner brings unique perspectives, strengths, and challenges to the learning environment, and it aims to create engaging, relevant, and personalized learning experiences that facilitate language acquisition and cultural integration (Reigeluth et al, 2016).

5.1. Developing Codes for Phase 1

This section details the thematic analysis coding process employed to analyze the qualitative data collected from the six focus groups conducted with adult ESL/EFL learners for phase 1 of the research (pre-implementation needs analysis). The goal of this analysis was to identify key components that would best support the language learning experience of the participants, considering their individual and collective needs and experiences. Additionally, it aimed to empower the learners in their language learning journey by helping them identify their own learning needs and communicate the most effective tools and resources for effective learning from their perspective. The emerging themes are utilized further in the analysis to highlight the

most effective and promising practices to implement an SLE from the perspective of the learners and how they were applied in practice.

5.1.2. Preparing the Data

The first step in the thematic analysis was to become deeply familiar with the data collected from the focus groups. A total of 6 focus groups were conducted with two to four participants in each group for a total of twenty one participants. Each focus group session was transcribed verbatim. This ensured that all verbal nuances and details were captured accurately. The transcripts were read multiple times to gain an in-depth understanding of the content. This iterative reading process was crucial for immersing myself in the data. During the reading process, initial notes were made to highlight potential patterns, interesting points, and preliminary ideas that emerged from the discussions. Additionally, the reading process enabled me to review the data carefully for identifying markers in the quotes that might somehow lead to any potential breach of anonymity for the participants. Each participant was then issued a code to protect their identity while still enabling me to search their quotes in the system.

5.1.3. Generating Codes

Once familiarization was achieved, the next step was to generate initial codes. A preliminary coding framework was developed based on the initial notes and the research questions guiding this study. This framework provided a structured approach to coding but was flexible enough to be refined as coding progressed. The transcripts were reviewed line-by-line, and initial codes were applied to segments of text relevant to the research questions. Each code captured a key aspect of the data. Initially, my research into the newer features of my coding software, Nvivo, had led me to believe that with the integration of Lumivero AI, the key codes can be generated automatically based on frequency of appearance in the data. However, further investigation

revealed that the AI auto-coding feature only functions as a key-word search for potential quantitative data. Therefore, somewhat disappointed, I resorted to using traditional coding methods.

The initial codes were then examined to identify potential themes, based on the initial thematic bundling of the chronological order of posed questions in the focus groups. Each category was then divided into more specific subcategories based on participants' responses to the questions. The thematic analysis resulted in the identification of key themes. Each theme is discussed in detail further below.



Figure 6. Data Analysis Procedure in Chronological Order

5.2. Findings of Phase 1

Having established the rigorous process undertaken for the thematic analysis, this section delves into the core of my research findings. The thematic analysis yielded several key themes, each of which highlights significant insights into the experiences and needs of the participating adult ESL/EFL learners. These themes not only shed light on the challenges faced by these learners. They also reveal how learners perceive the best or most effective teaching and learning practices. Such practices draw on their past experiences as well as their current needs and aspirations. The aim is to enhance and support learning in ways that are both equitable and inclusive. The resultant analysis explores each identified theme in detail, illustrating them with direct quotes from the focus group participants to provide a comprehensive understanding of the data.

5.2.1 Learning Objectives, Skills and Content

The tables below represent the data collected under each of the major themes. Each subcategory of a major theme is represented in the heading of the table, and each topic division of the subcategory is represented numerically. The column titled *Focus groups* represents the number of the focus groups (out of a total of six) in which the topic was mentioned, and the column titled *References* represents the total number of times the topic was mentioned across all groups. Direct illustrative quotes from participants are used following the initial analysis to support interpretation, while additional participant excerpts are available in [Appendix F](#) for readers who wish to engage further with the data. This pattern is repeated for each subcategory.

A. Goals, Objectives and Aspirations

Subcategory: Goals, Objective and Aspirations	Focus groups (FG)	References
Personal Goals (e.g., career advancement, academic achievement)	5	9
Professional Development (e.g., job opportunities, professional communication)	4	7
Cultural Understanding (e.g., travel, cultural exchange)	3	5

The initial analysis of participants' responses in this study illustrates a range of motivations shaped by their lived realities as adult ESL/EFL learners in Canada. Participants described goals that ranged from improving day-to-day communication and securing meaningful employment to supporting their children's schooling and participating more confidently in community life. Within the context of this research, these motivations suggest that adult language learning is closely intertwined with settlement-related needs, aspirations for upward mobility, and efforts to build a sense of belonging in a new socio-cultural environment. This finding aligns with existing research

on adult migrant and ESL education, which similarly highlights the relational links between language learning, social integration, employment trajectories, and identity negotiation in host societies (e.g., Norton, 2013; Derwing & Waugh, 2012; Bigelow & Vinogradov, 2011).

These findings align directly with **Research Question 3**, which examines the promising practices needed to design equitable and inclusive Seamless Learning Environments (SLEs) for adult ESL/EFL learners in Canada. As outlined in Chapters 2 and 3, learners' experiences, perceived barriers, and individual aspirations are underlying elements which encumber the principles of design and learning pedagogies mentioned. The analysis of participants' stated aspirations reveals that these adult learners pursue English for overlapping personal, professional, and cultural reasons, which extend beyond academic achievement. Many expressed a desire for fluency as a pathway to fuller participation in Canadian society, underscoring that language learning is not merely a technical endeavor, but deeply linked to identity, belonging, and confidence within diverse social contexts. These insights point to the necessity of designing SLEs that intentionally support learner agency, multimodal meaning-making, and fluid transitions between formal and informal learning spaces, all of which are central components of inclusive and responsive SLE design.

Learners' aspirations also extend into the professional sphere. Several participants linked English proficiency directly to career advancement, citing the need for effective communication in client meetings, presentations, and workplace interactions. These insights highlight a persistent equity challenge: learners who are otherwise qualified in their fields often find their opportunities constrained by language barriers rather than by lack of expertise. Such reflections underscore the importance of pedagogical approaches that prioritize authentic, real-world communication alongside traditional academic instruction.

A further layer of aspiration lies in cultural understanding. Participants described the desire to grasp idiomatic expressions, humor, and colloquial speech which are skills that go beyond grammar and vocabulary to encompass cultural integration. This dimension reinforces that language learning is inseparable from social participation, as learners seek not only to “speak correctly” but also to engage meaningfully in the cultural practices of their new communities.

Taken together, these goals illustrate the intersectional realities of language learning. For some learners, gender roles, immigration pathways, or prior educational access shape how they frame their objectives. For example, those balancing professional responsibilities with family commitments may prioritize workplace fluency, while others focus on social integration as a way of easing cultural transition. Recognizing these intersecting factors ensures that the design of a Seamless Learning Environment (SLE) does not treat learners as a homogeneous group but instead supports diverse and context-dependent aspirations.

By situating these findings within frameworks such as social constructivism and distributed cognition, it becomes clear that learners are not simply acquiring English in isolation; they are seeking to co-construct knowledge, identities, and opportunities within a new sociocultural environment. While Universal Design for Learning (UDL) did not inform the coding or theme generation process, these findings reinforce its relevance as an instructional design framework, where *flexibility* and *inclusivity* are embedded to accommodate varied learner goals.

A.1. Personal Goals

FIS1: "Well, it's really my goal is to communicate in a fluently with native speakers and also I try to present my, I mean my presentations, I believe my presentations and everything. Yeah, and the perfect way because English is my second language, and I would like to learn it thoroughly and perfect so I can talk. Uh, like a native speaker and communicate with them. I don't understand

what whatever they say because most of them we use some expressions in their daily conversations that somehow are weird to me."

The selected quote underscores the learner's aspiration to master English to the level of near-native fluency. The emphasis on perfecting presentations and understanding everyday expressions highlights the goal of achieving a comprehensive command of the language, which is crucial for effective communication.

A.2. Professional Development

F1S2: "Uh, I like to learn English to communicate to other friends, especially in this country to I think when English uh helping me to finding new friends and uh I can working better in uh my professional job. Because my job it's kind of very, uh, I have to communicate to clients, I have to be ready for meetings, for presentations and other things, and then I have to learning English as well as others."

The participants link English proficiency directly to professional success. The ability to communicate effectively in a work environment, particularly in client interactions and presentations, is seen as essential. Learning English is not only about personal growth but also about achieving professional competence and readiness.

A.3. Cultural Understanding

F3S1: "I wanna like be fluent in English and learn more about the daily English in Canada. Because when it 'cause I am living here, I want to express myself like the native English way. That's why I can kind of fit in this society and the Canadian community. So this is my goal for me to learn English."

This quote illustrates the learner's aim to use English as a tool for cultural integration. By learning to express themselves in a manner consistent with native speakers, they hope to fit into

the Canadian community more seamlessly. This goal extends beyond mere linguistic ability to encompass a deeper understanding of cultural practices and daily communication norms.

B. Challenges in Learning

Subcategory: Challenges in Learning	Focus groups	References
Vocabulary Acquisition	2	3
Listening and Comprehension	4	5
Writing Skills	2	2
Speaking Fluency	6	15
Grammar and syntax	0	0

The analysis of participants' reflections reveals the wide-ranging challenges adult ESL/EFL learners face across multiple skill domains: vocabulary, listening, writing, and speaking fluency. These difficulties highlight how language acquisition is not a uniform process but one shaped by individual backgrounds, prior educational experiences, and the sociocultural contexts in which learning takes place. These challenges reflect well-established findings in adult second language acquisition research, which emphasize that vocabulary, listening, speaking, and writing development are uneven, context-sensitive processes shaped by learners' prior experiences, identities, and sociocultural environments (Ellis, 2008; Norton, 2013; Dörnyei & Ushioda, 2011).

Vocabulary emerged as a recurring concern, especially when learners described the mental labor of translating between their first language and English. This process often led to hesitations, loss of fluency, and frustration when trying to retrieve the right words in real time. In subsequent discussions during the program, several participants noted that they drew on their first language and cultural repertoires to make sense of unfamiliar vocabulary, idiomatic expressions, and culturally embedded references. Learners described mentally comparing expressions across languages, identifying conceptual parallels, and drawing on shared cultural experiences to find

points of connection with the target language and culture. The challenges of navigating slang, idiomatic expressions, and culturally specific references further complicated communication. These accounts suggest that vocabulary learning for adult ESL/EFL learners is not limited to memorizing word lists, but involves negotiating meaning across languages and cultures in order to participate more confidently in informal, professional, and community interactions. This interpretation aligns with research on plurilingual and sociocultural approaches to vocabulary development, which conceptualize lexical learning as a process of cross-linguistic mediation, meaning negotiation, and cultural sense-making rather than isolated word acquisition (García & Wei, 2014; Piccardo, 2018).

Listening comprehension was also identified as a significant barrier, particularly in fast-paced or accent-diverse environments. Learners noted that while academic listening practice prepared them for structured contexts, it did little to support understanding in everyday encounters where speech is less predictable. This gap between academic preparation and lived experience speaks to an equity concern: learners may perform adequately in formal tests yet remain marginalized in daily interactions, where social belonging and workplace integration depend on rapid, flexible listening skills.

Writing challenges were closely tied to the demands of higher education and professional tasks. Several participants noted difficulty producing precise, structured writing for assignments, reports, or workplace communication. These struggles reflect the institutional pressures learners face: their success in academic and professional spaces is often judged through writing proficiency, which can create additional stress for those already managing linguistic and cultural transitions.

Speaking fluency, however, was the most pressing challenge across focus groups. Participants consistently emphasized the difficulty of producing speech in real time, especially in

informal conversations or professional negotiations where the “right” words must be found quickly. The contrast between exam preparation (e.g., IELTS templates) and spontaneous dialogue illustrates the inadequacy of formalized test-driven instruction in preparing learners for real-world communicative demands. For many, the inability to speak with ease created feelings of isolation, loss of confidence, and exclusion from both social and professional networks. Similar critiques appear in second language assessment and communicative competence literature, which note persistent mismatches between test-oriented instruction and the spontaneous, interactional demands of real-world communication (Canale & Swain, 1980; Fulcher, 2010; McNamara, 2014).

These challenges are not evenly distributed. While the study did not formally collect demographic profiles due to the ethical stance adopted for this research, participants’ contexts were still analytically situated through broad, non-identifying parameters and voluntary self-disclosure during focus group interactions. The research took place within a public, digitally mediated social learning environment, and participants were explicitly given the option to remain anonymous for their own online privacy. All participants were adult learners aged 18 or older, enrolled in higher-education institutions in Ottawa, and formally registered in English language programs at the intermediate to upper-intermediate proficiency level as defined by institutional placement requirements.

Although no demographic questionnaire was administered and the thesis does not report identifying characteristics such as occupation, immigration status, or prior educational history, participants’ comments repeatedly illuminated different pathways into English learning. Some described beginning English later in life through settlement-oriented or community-based experiences, while others referenced prior academically oriented language learning in their home countries. Participants also alluded to professional and family-related goals that shaped what they

prioritized in language learning and the kinds of supports they found motivating or usable. These discourse-based indicators were used analytically to situate interpretations of motivation, engagement, and learning challenges, while omitting details that could identify individuals.

This approach reflects a deliberate ethical and methodological choice to prioritize participant agency and digital privacy in a public social learning context while still accounting for heterogeneity within an adult ESL/EFL population through the learning pathways participants themselves disclosed.

Within these ethically necessary limits, the data still reveal important patterns. Learners who referenced limited early exposure to English often described heightened challenges with fluency and spontaneity in speech. In contrast, those who mentioned prior academic training reported greater ease with grammar and structured tasks yet continued to feel underprepared for informal, culturally embedded interactions in Canada. These self-reported differences underscore the importance of recognizing the heterogeneous experiences present even within an ostensibly uniform instructional level.

These findings point to the need for differentiated and flexible pedagogical approaches that accommodate the varied trajectories adult learners bring into the classroom. Even in the absence of detailed demographic profiling, participants' narratives make clear that adult ESL/EFL cohorts are far from homogenous, and effective instructional design must attend to these layered and intersecting dimensions of learner experience.

From a theoretical standpoint, these findings reinforce the principles of social constructivism and distributed cognition, as learners are shown to negotiate meaning within communities and across cultural contexts rather than merely acquiring discrete linguistic skills. The challenges identified in participants' accounts point to the importance of language instruction

that integrates authentic, socially situated practices and leverages collaborative learning opportunities.

While these findings are interpreted through social constructivist and distributed cognition frameworks, Universal Design for Learning (UDL) is not used as an analytic lens for theme generation. Rather, UDL functions as a design-oriented framework that informs how instructional supports and learning pathways within the Seamless Learning Environment (SLE) can accommodate diverse learner goals, preferences, and engagement patterns highlighted in the data. In this way, the findings support the adoption of an SLE as an environment where socially mediated, real-world, and multimodal language practices can be designed in alignment with learners' lived experiences, bridging classroom preparation with everyday language use.

B.1. Vocabulary Acquisition

F2S1: "For me personally is speaking because I always want to translate the language from my mother tongue to English. So it's a bit challenging, but actually I'm seeing that it's getting improved because when you talk a lot, you get familiar with these structures, with the vocabularies. And actually, sometimes I forget. I forget some vocabularies from my mother's tongue, and I remember the English vocabulary, all our alternative. So I think in my opinion, it's all about practicing. Practicing in the right way, not just practicing the mistakes every time so you won't learn it that way."

In this segment the participant shares their experience with vocabulary retention and retrieval. The challenge of translating from their native language to English highlights the cognitive effort involved in language switching. The emphasis on structured practice indicates a proactive approach to learning that focuses on accuracy and proficiency.

B.2. Listening and Comprehension

F4S3: "Listening is the most challenging skill for me, particularly when we talk to native speakers, international people I can understand and for speaking is very challenging as well. But I think to me, the main problem is listening. If I can understand what the people are talking about, I can make something. But yeah, when I cannot follow, especially when they're talking in a row, I mean several sentences back to back, I cannot follow. And that's the main problem."

This participant highlights the difficulty in following rapid and continuous speech, which impedes their overall comprehension and ability to engage in meaningful conversations. The challenge with understanding native speakers underscores the need for targeted listening practice and exposure to various speech patterns.

B.3. Writing Skills

F2S3: "I think it depends on each other. Uh if you go university and want to get PhD or master degree, I think the listening and writing specifically can be challenging."

F4S2: "actually, I'm weak at speaking and writing. Yeah!"

These quotes suggest that academic writing demands a high level of proficiency and precision, requiring learners to navigate complex structures and convey their ideas effectively in written form. The association between listening and writing skills reflects the interconnected nature of language proficiency across different modalities.

B.4. Speaking Fluency

F5S1: "Yeah, my main issue for English study is actually I couldn't speak fluently and in real time. You know when it comes to IELTS exam and so on. Since I had to pass it for my immigration and PhD study and having some kind of template and it's not so distributed and it was OK for me, it was good for me. But when it comes to day-to-day communication, I'm in, I'm in this trouble and I couldn't actually make the communication in real time."

This participant expresses frustration with the disparity between academic and practical speaking skills. While structured tests like IELTS provide a framework, real-time communication presents ongoing challenges, highlighting the need for fluidity and spontaneity in conversational English.

C. Preferred Learning Activities

Subcategory: Preferred learning activities	Focus groups	References
Group Discussions and Debates	4	12
Role-playing and Simulations	0	0
Interactive and group games	4	9
reading and analyzing text	1	1
Listening exercises (e.g. songs, podcasts)	3	5
Writing tasks	1	1

The focus group data reveal that learners value interactive and socially engaging activities that allow them to practice English in authentic contexts. Across discussions, participants emphasized the importance of group-based methods such as discussions, debates, games, and collaborative exercises. These preferences reflect not only a desire for variety but also a recognition that meaningful learning happens when language is used in real, purposeful ways rather than through passive exercises. These preferences emphasize communicative language teaching and task-based learning research, which emphasizes that meaningful language development occurs when learners engage in authentic, purpose-driven interaction rather than decontextualized practice (Ellis, 2003; Littlewood, 2004).

Group discussions and debates were highlighted as particularly effective for building confidence, expanding vocabulary, and learning how to navigate diverse conversational settings. Learners described such activities as opportunities to practice spontaneous speech, clarify

misunderstandings, and engage with multiple perspectives. Importantly, these activities provide learners with a sense of agency, allowing them to contribute their own experiences and viewpoints. From a constructivist perspective, this resonates strongly with the idea that knowledge emerges through social interaction and negotiation of meaning.

Interactive and group games were also identified as motivating tools that make learning enjoyable while reinforcing vocabulary and communicative strategies. Games lower the affective filter, creating a playful atmosphere that encourages risk-taking and experimentation with language. Several participants described games as particularly effective for practicing in real time, contrasting them with more traditional methods that often felt static or overly formal. By embedding language use in an enjoyable context, these activities support both engagement and retention. This finding is consistent with research on affect and motivation in second language learning, which shows that low-anxiety, playful environments support risk-taking, sustained engagement, and language experimentation (Krashen, 1982; Dörnyei & Ushioda, 2011).

Reading and analyzing texts, whether books, short stories, or excerpts from films, were valued for the way they expose learners to authentic language use and deepen their understanding of grammar and structure. Participants noted that working with real-world texts gave them insight into how English is used outside of textbooks, helping bridge the gap between academic English and everyday communication. When combined with group discussion, these activities also provide opportunities for critical reflection and collaborative meaning-making.

Listening activities such as music, podcasts, and films were regarded as both engaging and effective for strengthening listening and speaking skills. Learners appreciated that these formats expose them to a wide range of accents, idioms, and cultural references. They also stressed the importance of follow-up tasks, such as summarizing content or discussing it with peers, which

helped transform passive listening into active learning. This aligns with distributed cognition theory, as learners rely on shared resources and collective interpretation to build understanding. Similar conclusions are drawn in research on multimodal and socially mediated listening practices, which highlights the role of shared tools, peer interaction, and exposure to linguistic variation in developing listening and speaking competence (Field, 2008; Vandergrift & Goh, 2012).

Writing tasks, while mentioned less frequently, were still valued as tools for consolidating learning and practicing grammar. Some participants expressed interest in having homework or structured assignments, though others preferred more autonomous practice opportunities. These comments reveal an underlying tension: while learners recognize the importance of writing for academic and professional purposes, they also prioritize oral communication for immediate integration into Canadian society.

Taken together, these preferences highlight the value of multimodal, learner-centered approaches that emphasize interaction, creativity, and collaboration. The activities learners most appreciated (debates, games, multimedia tasks, etc.) are those that reflect Universal Design for Learning (UDL) principles by offering multiple means of engagement and expression. They also illustrate how learners want instruction to mirror real-life communicative demands, not just test-oriented outcomes.

An important equity consideration is how these activities allow learners from different linguistic and cultural backgrounds to contribute meaningfully. Group discussions, for example, may amplify the voices of more confident learners while marginalizing those who are hesitant. Similarly, some learners may find games more engaging than others depending on age, cultural familiarity, or personal learning preferences. This underscores the importance of designing activities that are inclusive, adaptable, and responsive to diverse learner needs.

Overall, the preference for collaborative, interactive learning activities underscores the potential of a Seamless Learning Environment (SLE). By embedding such practices in both in-person and online contexts, the SLE creates continuity between classroom and real-world learning, reinforcing skills across settings and fostering the kind of authentic, situated practice that participants clearly desire.

C.1. Group Discussions and Debates

F2S3: "And also I think the group discussion uh when are you uh are in any party or uh meeting with friends. I think the group discussion is very important to help to get better in future and and sometimes vocabulary, vocabulary games and playing such as playing board game or any activity can help us to enhance my UH World Bank and UH increase my knowledge."

This participant's comments emphasize the efficacy of group discussions for improving conversational abilities and vocabulary. The mention of vocabulary games and activities suggests a holistic approach to learning that combines social interaction with language practice.

C.2. Interactive and Group Games

F2S1: "Who doesn't like playing games. Everyone likes. So if we can combine the English learning and playing games, I think it would be awesome."

This statement reflects the participant's enthusiasm for incorporating fun and interactive elements into language learning. Games are perceived as a motivational tool that enhances engagement and retention of English language concepts.

C.3. Reading and Analyzing Texts

F4S1: "When I started studying English with my actually private coach. I really enjoyed listening to actually music, which I haven't done a lot. I don't know why, but I enjoyed watching movies. But in the class, you know, I think paying attention to, you know, for instance to some tips which I can find in, for instance, a short part of the movie. Or I don't know, I don't know how can I say my... I

think you get it. For instance, I don't know, watching short parts of a movie or a story and after that, analyzing the structures, the grammars, I don't know the new force. This is so interesting for me because I think I can learn it a lot when I'm facing the examples."

This participant (as the sole reference to the theme) finds value in using authentic materials like movies to analyze language structures and grammar. The approach of extracting learning points from media content illustrates a practical and engaging method for language learning.

C.4. Listening Exercises

F4S3: "Whatever, whatever that could help to improve my listening and speaking is perfect. I agree with (Student 1), I mean watching some movies or listening and then if I can give a summary of what we listen, I think it's good for both listening and speaking. And if you could correct us to lead the class, it would be great."

This quote emphasizes the participant's openness to diverse listening activities and the importance of feedback for enhancing listening and speaking abilities. Listening exercises are valued for their role in improving comprehension and oral proficiency.

C.5. Writing Tasks

F4S3: "Of course I I like I I also like to have some homework to work on."

The participant's preference for homework underscores the importance of structured practice in language learning. Writing tasks provide avenues for applying grammar rules, expanding vocabulary, and refining written communication skills. However, in this particular instance, the conversation led me to believe that the participant wished to have additional exercises and resources to practice on their own and not necessarily work on a writing assignment. Since these focus groups were conducted prior to the participants' introduction to the SLE, they did not yet have a complete understanding of the autonomous nature of the platform and were still thinking in terms of traditional learning environments similar to what they were experiencing in their formal

studies at their institution. Accordingly, participants were provided with many additional and multimodal practice resources each week, in accord with the weekly theme, and reminded that they have complete control over how much practice they wish to do on the topic and in whichever format they feel most comfortable.

D. Engaging Content

Subcategory: Engaging Content	Focus groups	References
Multimedia content	5	10
Interactive Online Content	2	3
Culturally Relevant Material	1	1
Literature	2	2

Learners repeatedly emphasized that engaging content is central to sustaining motivation and supporting long-term language development, as with learning any other subject. Across the focus groups, participants described a strong preference for materials that connect directly to their lived experiences, professional aspirations, and cultural interests. When content felt relevant, they were more likely to stay invested and actively participate. When it felt disconnected from their needs, they tended to disengage.

Several participants highlighted the value of materials that focus on practical, everyday English. They wanted resources that reflect the kinds of conversations they encounter in workplaces, public services, and community interactions. For them, textbooks that focus narrowly on grammar rules or artificial dialogues felt insufficient. Learners stressed the need for activities that reflect real-life communication, such as role-plays about visiting a doctor, applying for a job, or navigating government services, because these prepare them for the challenges they face outside

the classroom. This reflects the pragmatic dimension of social constructivism: knowledge gains meaning when it emerges from authentic social contexts.

Cultural relevance also emerged as a theme, although it was articulated most explicitly by a single participant in the interview data, as indicated in the findings tables. This concern, however, was echoed more broadly in informal course discussions, where learners expressed dissatisfaction with the one-dimensional and Anglo-centric nature of learning materials used in their formal institutions. Participants spoke about the value of engaging with more culturally diverse and contextually varied content, including exposure to different accents, dialects, and localized forms of English (e.g., British, Scottish, South African), as a way of experiencing the language beyond a single dominant norm. While not uniformly articulated in the interview data, these perspectives are analytically significant in highlighting how culturally responsive and plurilingual content can affirm learners' identities, expand communicative competence, and contribute to a more equitable learning environment. At the same time, it is important to recognize that such approaches require careful implementation to avoid reducing cultural diversity to fixed or superficial representations (Paris & Alim, 2014; Ladson-Billings, 2014). From a plurilingual perspective, this finding underscores how instructional design can validate learners' linguistic and cultural repertoires rather than reinforce linguistic homogeneity. The implications of this insight for instructional design, particularly through Universal Design for Learning (UDL), are taken up in later segments as design responses rather than analytical categories.

Learners also valued materials that made use of multimedia, such as films, music, podcasts, and online videos. They described these resources as both enjoyable and effective because they expose learners to natural language, different accents, and colloquial expressions. Importantly, multimedia materials were seen as bridges between formal and informal learning, helping learners

connect what they study in class to the media they consume in their daily lives. This reinforces the potential of a Seamless Learning Environment (SLE), where learners can move fluidly between structured instruction and real-world engagement with English.

At the same time, the discussions revealed equity-related challenges in content design. Not all learners had equal familiarity with certain cultural references in films or music, and some felt excluded when content assumed prior knowledge of Western contexts. This raises the risk of reinforcing cultural hierarchies. To address this, educators must ensure that multimedia content is carefully chosen to reflect both global perspectives and local realities, providing multiple entry points for learners with varied backgrounds.

Another challenge lies in balancing academic and practical content. While many learners prioritized everyday communication skills, others, particularly those preparing for higher education or professional certification, emphasized the importance of academic English. This tension reflects the diversity of goals within adult ESL/EFL classrooms and underscores the need for instructional approaches that move beyond surface-level flexibility.

Research in Universal Design for Learning emphasizes the importance of anticipating learner variability at the course design stage rather than retrofitting instruction after challenges arise (Meyer, Rose, & Gordon, 2014). From this perspective, instructors can integrate culturally relevant examples, varied discourse genres, and multiple entry points into both academic and practical language use. Studies in culturally responsive and plurilingual pedagogies further suggest that drawing on learners' lived experiences and linguistic repertoires supports engagement while also facilitating access to academic language practices (Cummins, 2007; García & Wei, 2014). Within a Seamless Learning Environment (SLE), such design choices allow academic and practical language development to coexist across contexts, enabling learners to pursue different

learning pathways without privileging one form of language use over another (Wong & Looi, 2012).

In short, learners' reflections on content underscore the need for a pedagogy that is relevant, authentic, and inclusive. Engaging content is not simply a matter of making lessons "interesting"; it is a question of equity, cultural representation, and real-world applicability. By integrating authentic, diverse, and multimedia-rich resources, an SLE can support both engagement and inclusion, ensuring that learners' diverse needs and identities are fully recognized in the language learning process

D.1. Multimedia Content

F5S3: "Yeah, watching one movie is interesting for me because of listening and getting familiar with accent and idioms, especially idioms, because it's a big problem for me. And the reading book is good idea because I see the board abbreviation and the other things it's both of them is good for me for improving my language, especially getting familiar with accent through the movie, watching the movie and the other."

This participant values movies for improving listening skills, understanding accents, and learning idiomatic expressions. While books are appreciated for their role in vocabulary expansion and exposure to written language nuances, contributing to overall language proficiency, most participants seem to prefer multimedia resources over pure text.

D.2. Interactive Online Content

F6S2: "Yeah. So I think movies and cartoons for me, is enjoying and engaging. Yeah, I think it because it's about life, real life. So we can use the sentences and expression in my life. Then I socialize with my classmates, my friends. When I go to go shopping, grow shopping, grocery or go to restaurant, I can use the their sentences that I that I heard in movies."

This participant expresses preference for interactive and relatable content that facilitates the application of learned language skills in real-life scenarios. The integration of language from movies and cartoons into everyday interactions enhances practical language use and cultural integration.

D.3. Culturally Relevant Material

F3S1: "Um, always. Just maybe about the personal growth would be the most interesting for me."

This participant (sole commenter in this theme) values materials that promote personal growth, suggesting a preference for content that enhances cultural understanding and facilitates meaningful language learning experiences.

D.4. Literature

F4S1: "I think the first one is books. Actually, I don't know the traditional one or something is. I really like books because I can underline. You know, I'm a person, I'm a tricky person, I can say, and I want to check something a lots and lots and lots a lot of time. And you know, underlying paraphrasing, I don't know finding the new wars, the structures can give me a little more confidence to find actually the new terms."

F1S2: "OK, I'd like to study stories, yeah, but not lectures. And also reading vocabularies are interesting and funny for me."

This participant values books for their ability to facilitate active learning through underlining, annotating, and discovering new vocabulary and grammatical structures. The fact that they emphasize enjoying story novels and not lectures hints at an innate desire to break from the traditional lecture-based learning methods.

E. Curriculum Gaps and Pace

Subcategory: Curriculum gaps and pace

Focus groups

References

Insufficient Coverage of Specific Topics (e.g., advanced grammar, colloquial expressions)	5	11
Lack of Practical Application (e.g., real-world usage, practical exercises)	4	9
Need for More Diverse Content (e.g., CSI, global perspectives, varied genres)	3	7
Curriculum is too heavy with no room for extra practice	4	7
Curriculum is too light and progress is too slow	1	2
Curriculum is adequate at the moment	2	2

Equity and inclusion emerged as one of the most prominent and deeply felt concerns in the focus groups. Learners consistently described the ways in which language education can either reproduce existing inequalities or create opportunities for empowerment. Their reflections revealed not only practical barriers but also broader questions about identity, belonging, and power. Within the context of this study, participants’ understandings of equity and inclusion were closely tied to whether learning environments recognized their lived realities, supported meaningful participation, and avoided privileging certain learners over others. These concepts were not framed abstractly, but experienced through access to resources, opportunities for voice, and the extent to which learners felt seen and supported within digital learning spaces.

Several participants spoke about unequal access to resources. For example, while some had reliable internet, laptops, or quiet study spaces, others relied on shared devices or limited mobile data. These disparities shaped their ability to participate fully in online or hybrid learning environments. Learners noted that while digital tools can expand access, they can also reinforce existing inequalities if not all students are equally equipped to use them. From the perspective of

distributed cognition, this highlights how learning is mediated not only by social interaction but also by material tools, and when access to those tools is uneven, opportunities for learning are uneven as well. These insights foreshadow the importance of design approaches, such as Universal Design for Learning within Seamless Learning Environments, that aim to anticipate variability in access, participation, and learner experience rather than treating equity as an afterthought.

The conversations also underscored the importance of recognizing learners' intersecting identities. For women learners with caregiving responsibilities, for example, rigid class schedules often created obstacles to consistent participation. Others noted that their experiences as newcomers, racialized individuals, or speakers of non-dominant languages shaped how they were perceived in educational and workplace settings. These reflections point to the significance of intersectionality in understanding learners' challenges: inequities are not experienced along a single axis of identity but through the compounding effects of gender, race, class, migration status, and language background. These participant accounts align closely with intersectional scholarship, which emphasizes that systems of power and inequality operate simultaneously rather than independently (Crenshaw, 1989; Collins & Bilge, 2020). Research in adult and multilingual education similarly demonstrates that caregiving responsibilities, racialization, and linguistic marginalization intersect to shape learners' access, participation, and sense of legitimacy within educational spaces (Yosso, 2005; OECD, 2023). Situating these findings within this literature strengthens the interpretation of participants' experiences as structurally patterned rather than individually idiosyncratic.

Cultural representation was another area where learners expressed strong views. Some recounted feeling alienated by textbooks and lessons that presented "Canadian culture" in narrow or stereotypical ways, while omitting diverse perspectives. Others appreciated moments when

classroom content reflected multiple cultural narratives, which made them feel both seen and valued. This tension demonstrates that inclusion is not achieved simply by adding occasional “diverse” examples; rather, it requires a sustained pedagogical commitment to representing multiple cultures and experiences as integral to the learning process.

Participants also raised concerns about how inclusion operates within classroom dynamics. Some learners described feeling overshadowed in group discussions, either because of differences in confidence, accent, or proficiency, or because others dominated the conversation. These dynamics reveal the subtle ways in which inequities manifest even within seemingly democratic settings. Teachers, therefore, play a critical role in moderating participation, creating structured opportunities for all voices to be heard, and fostering a learning community where respect and reciprocity are explicitly cultivated.

In reflecting on equity and inclusion, learners also identified promising practices. Flexible learning options, such as asynchronous activities, multiple modes of participation, and choices in how to demonstrate knowledge, were described as especially supportive. These practices align closely with UDL principles, which emphasize flexibility and choice as mechanisms for ensuring that all learners can engage meaningfully. Similarly, peer-to-peer learning was viewed as a powerful equalizer, allowing learners to draw on each other’s strengths while reducing reliance on teacher authority.

At the same time, participants were somewhat aware of the limitations of inclusion efforts. For some, institutional barriers, namely rigid assessment policies or lack of recognition of foreign credentials, remained significant obstacles, regardless of classroom practices. Others noted that while teachers might strive for inclusivity, systemic inequities in education and employment continued to shape their experiences. These reflections highlight the need to situate classroom-

based equity efforts within broader structural realities, recognizing both the potential and the limits of pedagogical interventions.

Consequently, the discussions on equity and inclusion demonstrate that learners are acutely aware of the social and structural conditions that shape their educational journeys. Their insights reflect well-established research showing that adult language learning is deeply influenced by broader systems of power, access, and recognition, rather than by individual effort alone (Selwyn, 2016; OECD, 2023). These findings reinforce the importance of designing a Seamless Learning Environment that does more than provide access to content: it must actively address inequities, honor diverse identities, and create conditions where all learners can meaningfully participate.

From an intersectional perspective, equity-oriented design requires attention to how power, privilege, and exclusion operate simultaneously across dimensions such as language, migration status, race, gender, and caregiving responsibilities (Crenshaw, 1989; Collins & Bilge, 2020). In this sense, inclusive learning environments are not neutral spaces but pedagogical constructions that either reproduce or disrupt existing inequalities. Aligning with principles of Universal Design for Learning, these findings underscore the need for learning environments that intentionally anticipate learner diversity and embed flexibility, representation, and participation as core design commitments rather than compensatory measures.

E.1. Insufficient Coverage of Specific Topics

FISI: "So as I said in the first session, uh, for me as the grammar is somehow talk because we don't use for example some structures such as if conditionals or models, or past perfect. So and then we want to use them, we should think and then you know and so I don't know how we can I mean use them or practice them. So when we want to talk without thinking, we tell the, this the the exact structure which we should use."

This participant highlights the gaps in grammar practice, particularly with advanced structures like conditionals and past perfect tense. The lack of practice opportunities for these structures impedes fluency and confidence in using them spontaneously.

E.2. Lack of Practical Application

F2S4: "Honestly I had several times the practice in English with different teachers. Unfortunately, most of what's the uh the time I had gap between uh this uh different learning issues and um unfortunately I will not in uh exposed to English people, everybody who can talk to me English. You know because of that uh never. I couldn't improve my, uh, skill in English, so I don't know how can I improve it now when I'm here in Canada."

This quote underlines the participant's struggle with applying learned English skills in real-life contexts due to limited exposure to native speakers; a common complaint among language learners who have limited immersion opportunities. Practical exercises and opportunities for immersion are seen as essential for bridging the gap between classroom learning and real-world communication.

E.3. Need for More Diverse Content

F2S1: "Uh, you know, I think most of the learning tools or learning stuff in English are passive. So you just have to book or you watch movies and you really do not learn. You know the learning process is so complicated and you cannot just read something or or or watch something and improve your skills. So for me, myself, I could improve my language skills and my confidence level significantly by talking about the things that I like, the things that I want to actually express in myself, expressing my mind. So I went through learning some vocabularies to be able to debate, to talk. So it's how I learn vocabulary and structures."

This participant advocates for active learning approaches that involve engaging discussions and debates on topics of personal interest. The preference for interactive and meaningful content underscores the need for curricula that foster deeper engagement and cultural relevance.

E.4. Curriculum Load and Pace

F5S3: "For me is slow pace, so slow. My pace is slow but because I need to improve my language as soon as possible for getting a job, and it's a slow for me."

F5S2: Oh, OK then uhm the pace was a slow for me, I could have done it sooner. I mean, I could have done it in three semester if they had let me. They didn't. They have some obligations. I don't know. I asked them. But for me It was a slow. I could have done it sooner, but they didn't let me.

F2S1: It's too heavy at the moment because we are in the middle of the semester and we have a lot of papers to write, especially the ones that are doing their studies in the graduate level. So for example, for me I have a lot of papers to do to write and assignments as well.

F2S2: me too. I completely agree with you. I also have lots of task and assignment. Unfortunately, this is (name of school). yes.

F2S4: I almost the same.

F4S1: OK. I think it's. I think it's a lot just I can say this one. I don't know how to explain it more. Yeah, a lot.

F4S3: "I would say I don't have a very heavy workload. If I don't take any courses at university and do some research and it depends. Sometimes I have. I don't have too much to work. I mean, it depends. Sometimes I have to spend more times. I don't. But in general, no. I don't have any very heavy workload and which I wish I had heavy workload. I work better when I I'm more busy, I'm more more efficient. That's why I like to have some work to work on."

These quotes reflect the participants' diverse experiences with the curriculum load and pace. Some find the pace too slow, hindering their urgency to improve language skills quickly for professional reasons, some appreciate a balanced workload that allows for efficient learning and productivity, while others expressed that the heavy workload of their formal learning leaves little to no extra room for additional practice.

The autonomous structure of the SLE is particularly beneficial here, as it allows learners to set their own pace according to their goals and schedules. This approach supports UDL principles, which advocate for learner autonomy and flexibility to accommodate diverse learning needs. To enhance this, task designs within the SLE needed to incorporate scaffolded topics that learners can complete at their own pace, enabling both faster and more gradual progression through language concepts.

Furthermore, social media-based discussions and asynchronous collaboration provided learners with continuous, flexible opportunities to practice language skills without strict time constraints; for example, structured yet flexible tasks including weekly themes where learners choose the number of materials and activities they wished to review depending on their current comfort level and professional objectives. This learner-driven pacing can promote both motivation and efficiency, ensuring that participants are neither hindered by a slow pace nor overwhelmed by an excessive workload.

F. Effective Teaching Methods

Subcategory: Effective teaching methods	Focus groups	References
Audio Visual Aids (e.g., pics, clips, videos, podcasts, music)	4	8
Interactive Methods (e.g., discussions, group work)	5	8

Games and Game based tasks	4	6
Technology Integration (e.g., apps, online tools)	6	7
Encouragement of Active Participation	1	2

Autonomy and motivation were recurring themes in learners' reflections, often framed as both opportunities and challenges in their educational journeys. Many participants emphasized the importance of having control over their own learning processes, describing autonomy as essential for sustaining engagement and building confidence. At the same time, they acknowledged that autonomy can be difficult to exercise in the face of structural barriers, cultural expectations, or limited resources.

Several learners expressed appreciation for opportunities to set their own pace, select resources that matched their interests, and choose when and how to participate in learning activities. These accounts resonate strongly with UDL principles of offering multiple means of engagement and expression. For instance, one learner explained that the ability to combine formal lessons with informal self-study through mobile apps made learning feel more flexible and personally relevant. Others noted that being able to revisit recorded lessons or access supplementary materials gave them greater confidence in their progress. Such practices not only foster motivation but also acknowledge that learners arrive with diverse goals, prior experiences, and rhythms of study.

However, autonomy was not universally experienced as empowering. Some participants spoke about feeling overwhelmed by the expectation to self-regulate, especially when they lacked prior experience with independent study or when they were juggling multiple responsibilities outside of school. For learners balancing employment, caregiving, and settlement challenges,

autonomy sometimes felt more like an added burden than a support. This tension highlights an important equity consideration: while autonomy can enhance motivation for some, it can exacerbate stress and disengagement for others, depending on their circumstances.

Intersectional factors were also evident in these discussions. Women with caregiving responsibilities, for example, described how limited time and competing demands made self-directed learning particularly challenging. Learners with precarious employment or financial instability similarly reported difficulty maintaining motivation in the face of insecurity. These accounts remind us that autonomy is not an abstract ideal but a situated practice, shaped by the intersection of gender, class, migration status, and other social factors.

Motivation was frequently tied to learners' sense of belonging and recognition. Participants described how encouragement from teachers and peers, as well as acknowledgment of their progress, played a significant role in sustaining their commitment. Conversely, experiences of exclusion, such as being dismissed for an accent or overlooked in group work, undermined motivation and reinforced feelings of marginalization. This underscores the relational dimension of motivation; it is not only about individual willpower but also about the social and cultural conditions that affirm or erode learners' agency.

Some learners highlighted the role of digital technologies in supporting motivation. Mobile apps, language exchange platforms, and online communities provided opportunities to practice at their own pace while connecting with peers who shared similar goals. Yet others pointed out that technology could also be a source of distraction or frustration, particularly when platforms were poorly designed or assumed a level of digital literacy that not all learners possessed. These reflections align with distributed cognition's focus on the interaction between people, tools, and

environments: motivation is shaped not just internally but through the resources and supports learners have at their disposal (Hollan, Hutchins, & Kirsh, 2000; Hutchins, 2000; Looi et al., 2010).

Ultimately, participants' reflections on autonomy and motivation reveal the nuanced and sometimes contradictory ways these concepts are experienced. Autonomy can empower learners by fostering self-direction and personal relevance, but it can also generate stress when structural or personal constraints limit learners' ability to act on their choices. Motivation, similarly, is sustained not only by individual effort but also by supportive relationships, inclusive practices, and equitable access to resources. For the design of the Seamless Learning Environment, these findings suggest the importance of balancing autonomy with structured support, ensuring that learners have both the freedom to direct their own learning and the scaffolding needed to sustain engagement.

F.1. Audio visual aids

F2S4: "Yeah, I agree with you. I think if we have one special content and we have an assignment for doing something for example, I should have listened to some podcast about some special topic and also just watch one short movie about that and after that I should write one writing and just a short writing about that. And after that speaking my mind and has some challenge which works and the in some content and about that special and when we repeat repeat on about many contents about that we can learn them and speak and we can improve ourselves in about that The special content. I think it's sort of helpful."

This quote illustrates the participant's preference for integrated assignments that combine listening, watching, writing, and speaking. Such multi-modal approaches help reinforce learning and provide a comprehensive understanding of the content.

F.2. Interactive Methods

F2S1: "You know, if you provide the content and you know as an assignment, if we go, if, if, if we are all interested in that subject or topic, we can go and read it or watch it and then come here and discuss, discuss it, talk to each other about it. I think I I see it very beneficial."

This participant confirms that engaging in discussions about shared content allows learners to express their thoughts, clarify doubts, and build confidence in using the language in social contexts.

F.3. Games and Game-Based Tasks

F4S1: "Yes, the last one is so great for me, but because I think the word is changing, I have to change. So social media is so could be so important and even games could be interesting, especially for boys. Yeah"

This quote affirms that the use of games, particularly those that involve social media, caters to diverse learning preferences and can be especially engaging for younger learners or those with a competitive spirit.

F.4. Technology Integration

F1S1: "As I said, I prefer first. For example, you describe the structure or the use of the workout, and then we practice it through stories or through some context or by games or something which can help us to speaking our minds and we can use it in our the daily conversations and activities."

Technology can provide interactive and personalized learning experiences, making it easier for learners to practice language skills in varied contexts, as mentioned by the participant above.

F.5. Encouragement of Active Participation

F2S1: "You know if we feel that we are engaged in the learning process and if you engage us, you know want us to speak, I think it it helps us significantly because um, some, some some people

have introverted personality and they really don't engage in conversations. So if you don't force yourself to talk, to speak, to, to express yourself, I think you won't ever be like a native speaker."

F2S3: and I had a teacher at the 1st when I was learning English. I had a teacher and I remember she put put pressure on me to speak with me during the class. After class I see if it was very helpful to get better and in a three months and four months I had teachers before before that but I think if teachers put pressure on each student to it's kind of to forced to have a speaking with other people. I think it's very helpful and and I I remember my teacher encouraged me to read newspaper and magazine and also the Ted Talk uh, I think the Ted Talks UH helps me to get better in listening skills. These are the specific teaching mental I remember.

Creating a supportive and engaging environment that encourages all learners to actively participate helps build confidence and improves speaking skills.

G. Importance of Technology

Subcategory: Importance of technology	Focus groups	References
essential	6	15
Helpful but not necessary	2	4
Not important	0	0
Preferred technologies (e.g., apps, online platforms, multimedia resources)	2	3

Technology emerged as both a vital resource and a slight source of difficulty. Many participants spoke positively about digital tools such as translation apps, language learning software, and online communication platforms, noting that these resources gave them more independence and opportunities to practice outside the classroom. However, others reported uneven access to devices, limited technical skills, or challenges navigating English-dominant

digital environments. For some, these barriers reinforced existing inequalities, particularly among learners from lower-income or less formally educated backgrounds.

Learners also expressed varying levels of confidence with technology. While younger participants tended to describe themselves as “comfortable” or “curious” with digital tools, older participants sometimes felt excluded or overwhelmed by the pace at which new platforms were introduced. While the older participants did not directly comment on this difficulty, the amount of technical support they required during their participation in the platform reiterated this issue. This generational divide reflects broader equity concerns around digital literacy, where assumptions about access and familiarity risk marginalizing certain groups.

From the perspective of distributed cognition, these findings underscore the ways technology mediates knowledge construction and participation. The tools themselves become part of the cognitive system, shaping how the learners access, process, and share information. Yet if learners lack equitable access or training, technology risks widening rather than narrowing gaps in opportunity.

In reflecting on these findings, it is important to acknowledge the potential influence of group dynamics in the focus group discussions. Some participants may have underreported difficulties with technology due to embarrassment, especially in front of peers who were more confident. This possibility suggests the need for triangulating focus group data with individual reflections or observational evidence in future replications of the research.

Overall, these insights, point to the importance of building digital literacy directly into the SLE design. Providing scaffolding, tutorials, and ongoing technical support can help ensure that technology functions as an enabler of participation rather than a barrier. Moreover, considering

intersectional dimensions such as age, socio-economic status, and previous educational experience will be key to designing solutions that are truly inclusive and equitable.

G.1. Essential

F1S1: "Yeah, I think technology has changed. Uh, a lot of things. Especially learning English because there are a lot of various applications that we can use in our daily routines. Uh and uh yeah. I, for example have some applications such as All Ears, Some News Podcast, uh, which sometimes I listen to them in order to activate my vocabularies and my I mean English."

This participant highlights the accessibility and convenience of language learning applications, which can be seamlessly integrated into daily routines to enhance vocabulary and overall language proficiency. The emphasis on specific apps like "All Ears" and "Some News Podcast" suggests that these tools provide valuable, targeted practice opportunities.

G.2. Helpful but Not Necessary

F4S3: "Now, we we see the effect of the technology in any aspect of our life, including English language learning for example I don't have any. I used to have a lot of books, I mean physical work, but now everything is available online. So but honestly even right now I prefer the hard copy."

This participant underscores a preference for physical books over digital resources, despite recognizing the convenience of online materials. The participant appreciates the availability of digital content but continues to value the tactile experience and perceived reliability of hard copies.

G.3. Preferred Technologies

F1S4: "I do not think if what you mean by technology can be generalized to social media like Instagram. I use Instagram a lot to learn different vocabulary and phrases."

Based on participant comments, social media platforms like Instagram are employed for vocabulary acquisition, while advanced tools like ChatGPT (circa 2023/V.2.0) are used for writing

and grammar correction. Additionally, interactive games are appreciated for making the learning process engaging and enjoyable.

H. Preferred Feedback Method

Subcategory: Preferred feedback method	Focus groups	References
Verbal simultaneous feedback	2	2
Written feedback	1	1
Digital consecutive feedback	4	6
frequency of feedback	4	6
Constructive feedback	2	4

Feedback was identified as a central factor in shaping learners' confidence, engagement, and sense of progress. Participants described a range of preferences for how, when, and in what form feedback should be provided. While some valued immediate verbal corrections to help them avoid repeating mistakes, others expressed a need for written or digital feedback that allowed time for reflection. These varying perspectives point to the importance of flexibility in feedback approaches, particularly in adult ESL/EFL learning contexts where learners' experiences, goals, and emotional responses to correction differ significantly. These findings highlight research in second language pedagogy showing that effective feedback for adult learners must be flexible, context-sensitive, and responsive to individual goals and affective needs rather than applied uniformly (Hattie & Timperley, 2007; Hyland & Hyland, 2006).

Learners repeatedly emphasized that feedback was not just about accuracy but about building confidence. For some, real-time correction boosted their sense of improvement and gave them the assurance that they were on the right track. For others, however, frequent interruptions or overly critical comments created anxiety and reduced their willingness to speak. This tension

underscores a key pedagogical challenge: how to provide feedback that is supportive and actionable without undermining learners' confidence or discouraging participation.

An equity lens reveals that feedback needs are also shaped by learners' broader circumstances. For instance, those balancing work, caregiving, or academic pressures may rely on digital or asynchronous feedback as a more realistic and sustainable form of support. In contrast, learners who experience isolation or limited opportunities for authentic language practice may benefit more from immediate, interactive feedback that simulates real-world communication. These differences highlight the necessity of feedback systems that are not only pedagogically sound but also responsive to learners' diverse contexts.

From an intersectional perspective, it is important to recognize that cultural and linguistic backgrounds also influence how feedback is received and interpreted. For example, some learners may come from educational traditions where teacher authority is emphasized and expect more direct correction, while others may perceive such correction as discouraging. Acknowledging these dynamics can help educators design feedback practices that are both culturally sensitive and individually supportive. Research on intercultural and sociocultural dimensions of feedback likewise emphasizes that learners' cultural and educational backgrounds shape how correction is perceived, underscoring the need for culturally responsive feedback practices (Holliday, 2011; Norton, 2013).

For the SLE, these findings suggest that offering multiple feedback modalities is crucial. Verbal, written, and digital feedback can be combined to give learners choice and agency in how they receive guidance. Equally important is ensuring that feedback is constructive, balancing positive reinforcement with critical insights in ways that sustain motivation. Embedding reflective opportunities, such as weekly feedback summaries, could provide structure while still allowing

learners to process input at their own pace. By foregrounding flexibility, equity, and cultural sensitivity, the SLE can create feedback practices that not only improve linguistic accuracy but also foster confidence, persistence, and belonging.

H.1. Verbal Simultaneous Feedback

Verbal simultaneous feedback is given immediately during interactions, allowing learners to correct their mistakes in real-time.

F4S2: "I think I need to correct my mistake because I don't have enough confidence in this actually at least speaking language. I mean speaking English. And because of that if you correct my mistake is good. I don't know I said true."

F2S3: "Oh just from teacher? Sure. Uh, yeah. I see. Every time is better."

These participants highlight the importance of immediate correction to build confidence in speaking English. The need for real-time feedback indicates a preference for interactive and responsive teaching methods that address errors as they occur.

H.2. Written Feedback

Written feedback provides detailed, specific comments on learners' performance, often highlighting particular areas for improvement and suggesting alternatives.

F3S1: "Um, maybe I will. I I would. I prefer to have the feedback. Um, I I want like I prefer like a specific feedback like, oh, you didn't express your idea well in this sentence. And any alternative expression can I use."

The preference for specific written feedback suggests that detailed, constructive comments help learners understand their mistakes and learn how to express themselves more effectively. Written feedback also allows for reflection and reference, supporting continuous improvement.

H.3. Digital Consecutive Feedback

Digital consecutive feedback involves providing comments and suggestions through digital platforms after a learning session, allowing learners time to reflect and implement improvements.

F4S3: "Since we have a weekly session, I prefer to receive feedback after each session. Then I have one week to improve on my for the next session and I like to receive critical feedback. Not all of all of critical because it will be disappointing. At least one or two good if there is any."

This participant (and others!) values receiving feedback after each session, emphasizing the importance of balanced feedback that includes both positive and critical elements. The weekly interval allows for incremental improvements and sustained motivation.

H.4. Frequency of Feedback

F2S4: "Monthly."

F2S1: "every time I do mistake."

These comments represent diverse opinions on the ideal frequency of feedback. While some learners prefer constant feedback to correct mistakes immediately, others find excessive correction overwhelming and demotivating, particularly in the early stages of language acquisition.

H.5. Constructive Feedback

Constructive feedback is perceived as beneficial when it provides actionable suggestions and encourages improvement without being overly critical.

F5S1: "Yeah, and I think that it could be boosting to me, improving to me and beneficial to receive feedback. And for example, I know that now that I'm talking, there are so many grammar issues and so on, it's not possible for you to bring all the mistakes to my point and but I I like to receive feedback. Just speaking and discussing without any feedback doesn't work. Won't be so beneficial. And I strongly like to receive feedback, but about how to receive, I'm not sure since I don't know

what would be our sessions and so on. I'm not familiar with the way we want to communicate. Just this."

This participant emphasizes the importance of feedback for improvement and the necessity of balancing the volume and detail of feedback to ensure it is constructive and not overwhelming.

I. Additional Support and Resources

Subcategory: Additional support and resources	Focus groups	References
Extra activities	1	3
More Group and Peer Support	4	9
Access to more Online Resources (e.g., websites, apps)	2	3
Extra Tutoring and Mentorship	1	3

Participants identified several forms of additional support that they felt would strengthen their language learning. These included extra activities for regular practice, more opportunities for group and peer interaction, greater access to online resources, and options for extra tutoring or mentorship. Together, these requests reflect the need for a holistic learning environment that combines structured practice with social and technological supports.

One participant explicitly emphasized the importance of routine tasks and structured activities, noting that without consistent practice, it was easy to lose momentum. For some, having daily or weekly tasks acted as external motivation to stay engaged with language learning. Others explained that peer support and collaborative learning were especially valuable, providing both accountability and opportunities to practice conversational English in a less formal, lower-stakes environment. These insights highlight how social learning processes, as described in theories of distributed cognition, play a crucial role in sustaining engagement.

Access to additional online resources also emerged as an important theme. Learners wanted exposure to diverse materials such as podcasts, apps, and videos that reflected authentic language use in daily life. However, participants also recognized that resources alone were not enough; without guidance and scaffolding, they risked becoming overwhelming or underused. This suggests that curation and integration of resources into a broader learning structure may be as important as access itself.

An equity perspective sheds light on why additional supports are not equally accessible to all learners. In this context, equity is understood not just as providing identical resources to all learners, but as recognizing and responding to the structural, social, and material conditions that shape individuals' capacity to engage with learning opportunities (Lynch & Baker, 2005; Selwyn, 2016). For example, participants balancing work or family obligations described struggling to make time for independent practice, while others noted financial barriers to accessing private tutoring or paid apps. Intersectional factors such as caregiving responsibilities, employment demands, and immigration-related stress further shaped how much learners could take advantage of available supports (Crenshaw, 1989; Collins & Bilge, 2020). These realities underline the importance of designing supports that are flexible, affordable, and responsive to the varied circumstances of adult ESL/EFL learners, rather than assuming uniform access or availability.

For the SLE, these findings point to the value of offering layered and customizable supports. Built-in opportunities for peer collaboration, flexible access to digital resources, and optional structured activities can ensure that learners with different capacities and needs still find ways to engage meaningfully. At the same time, the platform should avoid overwhelming learners with excessive resources, instead offering guidance on how to integrate supports into their personal

and professional lives. By acknowledging systemic and structural barriers, the SLE can move beyond a one-size-fits-all model and create a more equitable and inclusive learning environment.

1.1. Extra Activities

F5S1: "Uhm if you give us kind of routine tasks and so on to practice daily, kind of forcing us to practice. I think that I'm the person that if there isn't any task to me, I don't do anything, you know, I'm I'm the person, it's my personality."

F5S2: Yeah. As (Student 1) said I like homeworks too. I like to have for homework and about other resources. If for example if you use any special application or something that that will be good to suggest us to use that tool to learn more or practice more. If you know any podcast that will help us more, yeah, that kind of things especially or some series, movies. Any suggestion.

F5S3: I struggle with English. I prefer to have mandatory task for doing. Yeah, but it's better for me. It works for me.

This quote highlights the importance of structured activities; for some learners, having routine tasks can be crucial in maintaining discipline and consistency in their language studies.

1.2. More Group and Peer Support

F6S1: "Actually I would like I prefer we have we have in a classmate classmate discussion to get meet together for for, for, for, saying, for object and talking with them and this discussion together."

F2S2: Sorry, I think we have a continuous classes and we don't disconnect, disconnect our relation our. I mean I think it's better because we should do that in, do that in long, long time if we want to improve and improve ourselves.

F2S3: I think and anything like living here is not very helpful. Because of that the children grows up in English countries had a better language skill and it is this. My words are not disappointing, but I see all of the sources can help other people to get improved, uh, language skill up to a certain

level and after. If you wanna get above this certain you need to practice a lot. A lot. Over and over and over again. But the goal, the goal is to have in the... In the best scenario you have a 50 or 60 percentage of the native native-esque. You can get 60 percent, 60% or 70% of a native has ability to can make a communication with others. And in the better option, in the better goal, you can speak English as well as uh Canadian, uh Canadian child, six years old or seven years old. But all of the sources can help us up to certain level and after this certain level you had you need lots of time and I think it's by passing a time it's get better

The preference for classmate discussions suggests that learners value opportunities to practice language skills in a social context, which can also help build confidence and reduce the fear of making mistakes.

I.3. Access to More Online Resources

F2S3: "I think and anything like living here is not very helpful. Because of that the children grows up in English countries had a better language skill and it is this. My words are not disappointing, but I see all of the sources can help other people to get improved, uh, language skill up to a certain level and after. If you wanna get above this certain you need to practice a lot. A lot. Over and over and over again. But the goal, the goal is to have in the... In the best scenario you have a 50 or 60 percentage of the native native-esque. You can get 60 percent, 60% or 70% of a native has ability to can make a communication with others. And in the better option, in the better goal, you can speak English as well as uh Canadian, uh Canadian child, six years old or seven years old. But all of the sources can help us up to certain level and after this certain level you had you need lots of time and I think it's by passing a time it's get better."

This participant emphasizes the need for extensive practice beyond what is available through online resources, suggesting that while these tools are helpful, achieving high proficiency requires continuous effort and immersion.

I.4. Extra Tutoring and Mentorship

F2S2: "Sorry, I think we have a continuous classes and we don't disconnect, disconnect our relation our. I mean I think it's better because we should do that in, do that in long, long time if we want to improve and improve ourselves."

The preference for continuous classes and mentorship highlights the importance of sustained learning efforts and the role of consistent support in achieving language proficiency.

5.2.2. Personal Learning Experiences and Narratives

A. Engaging and Challenging Aspects

Subcategory: Engaging VS Challenging	Focus groups	References
Engaging/Enjoyable	5	12
Challenging/Frustrating	6	14

A.1. Engaging and Enjoyable Aspects

Participants described a variety of activities that made language learning enjoyable and motivating. One recurring theme was the pleasure of understanding media. Learners spoke about the excitement of watching movies without subtitles, listening to music, or following stories in English. These activities combined leisure with language practice, giving learners a tangible sense of progress. For example, one participant described how recognizing expressions in films felt “exciting,” while another explained that watching movies was “a kind of enjoyable activity” that also served as an effective learning tool.

Others emphasized immersion and practical use as key to enjoyment. One participant reflected on a study abroad program in Japan, describing how frequent opportunities to socialize

in the target language significantly improved their skills and created a sense of joy in the process. This highlights the importance of authentic, real-world interactions in sustaining engagement.

Specific skills also surfaced as enjoyable aspects of learning. Speaking was often highlighted as particularly fulfilling, especially when learners could overcome weaknesses and track their improvement. Listening was valued as a way to connect more naturally with English speakers, while reading and writing offered enjoyment through structure and reflection. For instance, one participant noted that reading was the most enjoyable part of their learning, while another described writing as both rewarding and manageable compared to the stress of speaking in public.

Taken together, these insights suggest that enjoyment in language learning is closely tied to relevance, authenticity, and opportunities for growth. However, what counts as enjoyable varies greatly among learners, shaped by prior educational experiences, personal confidence levels, and access to different kinds of resources . This diversity underscores the need for flexible learning environments that accommodate multiple pathways for engagement (Dörnyei & Ushioda, 2011; Gilmore, 2007; Kinginger, 2011).

Understanding Media:

F1S1: "The more interesting part for me is that when I know English and when I for example watch a movie or let me send you a music or I mean voice, I can understand it thoroughly. So it yeah, it is exciting for me."

Immersion and Practical Use:

F3S1: "Oh, I see. So um, is it? Is it necessary to talk about the, um, learning English? Can I use other language learning? Yes. Any language learning experiences? OK, because I studied Japanese in my bachelor's. Yeah. When I I I went to Japan for a summer program like this. And then I really enjoy text that experience because I had a chance to, um, speak Japanese with the

student at that university and then because we hang out a lot and we have a lot of a lot of opportunity to stay together. So for me it is uh, I improve a lot, um, in during that. Because I really had a chance to use it practically and speak with my friends."

Specific Skills:

F4S1: "Actually, in the in the section of learning actually English, the most important part is for me speaking because not important, enjoyable or engaging. Oh as I as I'm a person, I'm I'm actually ambitious person. So the the most enjoyable part is you know eliminating the weaknesses. So the most enjoyable part could be speaking and I think a little more in the in the part of actually listening because I think these are two really important skills when you want to improve. That's it I think."

Reading and Writing:

F4S2: "I I think reading is the most enjoyable part for me, and speaking and writing, as I said, is the most difficult."

A.2. Challenging and Frustrating Aspects

While participants identified many enjoyable aspects of language learning, they also spoke candidly about the challenges that made the process frustrating. Grammar was frequently described as a persistent obstacle, particularly mastering tenses and applying them in everyday conversation. One participant admitted, "I still struggle with learning different tenses and using them," a comment that reflects how grammar, though essential, often becomes a source of stress rather than confidence.

Speaking emerged as another significant challenge, especially in formal or high-pressure situations. Learners explained that even when they were comfortable with reading or writing, speaking in front of others provoked anxiety and self-doubt. For instance, one participant described public speaking as "stressful," while another highlighted the difficulty of speaking in class

compared to working with texts. These insights reveal how oral skills are not only a linguistic hurdle but also deeply tied to issues of confidence, identity, and fear of judgment.

The frustration learners experienced points to a wider structural issue: language classrooms often emphasize correctness and performance in ways that heighten anxiety, especially for adult learners navigating new cultural and social environments. From an equity perspective, these struggles are not simply individual shortcomings but are shaped by learners' histories of education, migration, and social positioning. For women balancing family responsibilities, for instance, limited time for practice can exacerbate anxiety around speaking. Similarly, learners from contexts where public speaking was not part of their prior schooling may face disproportionate challenges in adapting to classroom expectations.

In designing the SLE, these insights were pivotal. Rather than requiring formal presentations that risked reproducing stress, learners were encouraged to share personal stories, immigration journeys, job interview experiences, or cultural practices, in conversational formats. This shifted the focus from performance to authentic communication, reducing pressure while still supporting the same skill development. The approach reflects both the UDL principle of providing multiple means of engagement and a socially distributed cognition framework, where learning is supported through community interaction and relevance to lived experiences.

Grammar:

F5S2: "I find grammar challenging for me. I still struggle with learning different tenses and using them."

Speaking:

F4S2: "Speaking and writing, as I said, is the most difficult."

F4S3: "Speaking and listening the most challenging."

F5S1: "But I think that the main issue is speaking in front of lots of people, which is stressful. And yeah, the main issue is speaking in public to me."

Public Speaking:

F5S1: "But I think that the main issue is speaking in front of lots of people, which is stressful. And yeah, the main issue is speaking in public to me."

B. Autonomy and Agency in Language Learning Journey

Subcategory: Engaging VS Challenging	Focus groups	References
High Autonomy	4	5
Limited Autonomy	4	10
Perception of empowerment	4	7

Across the focus groups, autonomy and agency emerged as central factors shaping learners' experiences with English. For some participants, self-directed study created a strong sense of control, allowing them to choose materials, set goals, and learn at their own pace. These experiences were described as empowering and deeply motivating, especially when linked to personal or professional aspirations. By contrast, others felt constrained by the rigid structures of formal language programs, where prescribed textbooks and standardized methods limited opportunities for tailoring learning to their needs.

Perceptions of empowerment were closely tied to goal-setting and planning. Learners who could set clear objectives and monitor their progress reported higher satisfaction and confidence. Yet autonomy was not equally accessible to all. Structural factors such as work obligations, family responsibilities, and financial pressures shaped how much agency learners could exercise in their studies. While some had the time and resources to pursue self-guided learning, others struggled to maintain control over their learning in the face of competing demands.

These findings underscore that autonomy in language learning is not simply an individual trait but a socially mediated process, influenced by learners' circumstances and opportunities. For the design of the SLE, this means creating a balance between structure and flexibility, providing space for learners to set personal goals and influence the learning process, while also offering support for those whose autonomy is limited by external pressures (Benson, 2011; Norton, 2013). In this way, agency can be more equitably distributed, ensuring that all learners have opportunities to feel empowered in their language learning journeys.

B.1. High Autonomy

Self-directed Learning:

F3S1: "Yeah, I feel like I have a lot of autonomy and agency, OK? Because I, after I graduate, graduate from high school, I don't really have an English class at the Uni, so I kind of learned English and improve it on my own. So I can select the material that I like. I can do it anytime. So it's kind of free."

F2S3: "Exactly." (in response to gaining more control over learning without being forced)

F4S3: "OK yeah, I I understand. The only formal, I mean English training that I received is back many years ago when I was preparing for IELTS exam. And yeah, because I had motivation, so I had enough control in many on aspects. And at the moment I think it's the same. Yeah. I think there is more."

These participants highlight the benefits of self-directed learning, where they can choose their materials, set their schedules, and learn at their own pace. This autonomy is often linked to higher motivation and a sense of personal achievement. Unsurprisingly, participants who expressed their high autonomy level in language learning also explicated that this autonomy was

not available to them in their formal language learning processes but rather, it was achieved either through private tutoring or self-guided studies motivated by personal and professional aspirations.

B.2. Limited Autonomy:

Structured Courses:

FIS3: "Uhm, usually in English classes they have a book and they teach based on the book. So we actually are not the ones who choose this experience, but we are told that this is this method. These things are good for you to learn, but at this time when you finish those books and you have still difficulty connecting and being in communicating with others, I think we need a more focused study and experience that is based on our needs exactly. So, for example, yeah, those books doesn't work anymore."

These experiences reflect a more traditional, structured approach to language learning, where students often feel they have less control over their learning paths. The focus on prescribed materials and methods can limit students' ability to tailor their learning to their personal needs and preferences.

Participants' perceptions of autonomy in language learning vary widely. Those who have had the opportunity to engage in self-directed learning report higher levels of motivation and satisfaction, while those in more structured environments often feel constrained and less engaged. Recognizing the importance of autonomy and finding ways to incorporate elements of self-directed learning, even within structured courses, can enhance the overall effectiveness and enjoyment of the language learning experience (Benson, 2007; Saeheng, 2017; Irgatoğlu, 2024).

B.3. Perception of Empowerment

Goal Setting and Planning

Several participants emphasized the importance of having clear goals and a structured plan to feel empowered in their learning:

F2S1: "Yeah, yeah, actually. Actually, when I had goal, I could plan and you know, organize everything to reach that goal. So when you don't have goal, you really cannot have control over your learning. Maybe you can do it if you do the self regulation. So you need, you need to have the goal and and and determine the time you need to reach that."

Control and Satisfaction

Some participants described their sense of control and satisfaction with their learning experiences, which contributed to their feeling of empowerment:

F4S1: "Actually, I even didn't. I don't know how can I explain this is so tough. I can say I was quite comfortable and satisfied because I got what I wanted as it's as a learner in actually English, because I had to pass that way to reach my goals. But I can't really, I can't explain more."

Participants expressed a sense of empowerment when they had control over their learning materials, schedules, and methods, leading to more satisfying and effective learning experiences.

Participatory Learning Environment

Having a say in the learning process and feeling that their feedback was valued also contributed to participants' sense of empowerment:

F6S2: "I think I, I we have control in your class because you because you want to share our ideas about how to deal this class how to for example what topic do you like to to talk about it and you you wanna our feedback you you wanna you wanna know our feedback about the class. So I think I think I didn't feel anything that that that's push me. Now I think."

C. Cultural, Linguistic, or Identity Representation

Subcategory: Representation	Focus groups	References
Sufficient representation	4	5
Insufficient representation	4	6

The discussions revealed that cultural and identity representation plays a powerful role in shaping learners' experiences with English. Some participants described moments of inclusion, particularly when their own cultures and perspectives were acknowledged in class discussions or when lessons drew on familiar contexts. These instances of representation not only made learning more meaningful but also validated learners' identities, reinforcing the idea that their backgrounds were valued in the learning process.

At the same time, many participants noted a lack of cultural representation in mainstream English learning materials, which they described as overly Western-centric. This disconnect sometimes led to feelings of alienation or cultural conflict, especially for those navigating new social norms in Canada. For these learners, English was not just a linguistic challenge but also a cultural negotiation, one that affected their sense of belonging and self-expression.

The impact on identity was particularly striking. Learners reflected on how acquiring English reshaped their cultural practices, interactions, and self-perceptions. Some viewed this as a positive process of adaptation and integration, while others expressed unease at the tension between preserving their cultural identity and adapting to a new cultural environment. Intersectional factors such as migration status and social position shaped how learners experienced this identity negotiation, making the process more complex for some than for others.

Consequently, these findings highlight that cultural representation in language learning is more than a pedagogical detail; it is an equity issue. The SLE, therefore, needs to be designed in ways that allow learners to see their own cultures reflected, while also providing opportunities to engage critically with new cultural contexts (Piccardo, 2018; Darwin & Norton, 2015). This

balance can help affirm learners' identities, reduce cultural dissonance, and create more inclusive and equitable learning environments.

C. 1. Sufficient Representation

Participants who felt that their culture and identity were sufficiently represented in their learning experiences highlighted the inclusion of discussions about their own cultural backgrounds:

F1S3: "I also found it with found the previous classes that I have a representative because they usually ask us about our experiences or culture and we share or for example, favorite food or yeah."

These participants appreciated when their own cultures and experiences were integrated into the learning process, making the lessons more relevant and meaningful. It is worth noting that their perspective of cultural inclusion and representation was often the result of having taken formal language lessons in their countries of origin where there is shared cultural and social repertoire between the instructor and the students. Their perception of the learning material varied in reference to whether they followed a globally accepted format such as IELTS or TOEFL learning materials or external resources procured and offered by their instructor.

C.2. Insufficient Representation

On the other hand, some participants felt that their cultural backgrounds were not well-represented in the learning materials and experiences:

F2S1: "Obviously they [learning materials] are not written for us, they are written by Western countries for everybody in the world. It's not just about English, it's the same for almost every science, right?"

These participants felt that the materials and discussions were predominantly Western-centric, which sometimes led to cultural conflicts or a lack of relevance to their personal experiences. This experience is unfortunately common among language learners as most English

language teaching material is designed on a “one size fits all” basis and not necessarily tailored to address diverse needs and inclusive concepts (Ottley, 2016).

C.3. Impact on Identity

Participants also discussed how learning English and the associated cultural aspects influenced their identity:

FIS1: "In my opinion, I think somehow it represents our, I mean, our culture. The way we talk or the way we look at things because, for example, for greeting when we [Nationality Omitted] used to shake hands with each other but here it's something weird to them. Or, for example, when we see a friend or someone who is close to us, we used to kiss each other but here they don't do that. So I think such behaviors or such cultures somehow can represent in our learning English."

D. Importance of Additional Practice Outside of the Program

Subcategory: Practice outside of formal learning	Focus groups	References
Very important	6	20
Somewhat important	0	0
Not important	0	0

Participants overwhelmingly emphasized that learning did not—and could not—stop at the classroom door. Almost every learner described additional practice outside formal lessons as essential for making real progress in English. They linked this practice to survival in daily life, professional opportunities, and meaningful social participation. For some, practicing English outside the program meant engaging in everyday interactions such as shopping, job applications, or casual conversations with neighbors. For others, it meant actively seeking spaces like social events or informal gatherings where they could apply their skills.

The responses suggest that learners see classroom instruction as a foundation, but not as sufficient on its own. Authentic, real-world practice was valued because it affords learners pedagogical opportunities to test their skills in spontaneous situations, gain exposure to natural language use, and build confidence through trial and error. Importantly, many participants noted that these experiences were not only practical but also enjoyable, offering a sense of belonging and cultural integration.

From an equity perspective, however, it is important to note that not all learners had the same access to opportunities for practice. Factors such as work schedules, family and caregiving responsibilities, or limited social networks often restricted participation. Some learners also reported challenges in finding English-speaking peers willing to engage, which highlights how systemic barriers and social isolation can undermine the benefits of practice outside formal education.

For the design of the SLE, these insights reinforce the importance of building bridges between structured classroom learning and learners' everyday contexts. Embedding opportunities for authentic practice, whether through digital platforms, community partnerships, or peer-led activities, can help reduce inequities in access while providing learners with the practical engagement they see as indispensable for progress

D.1. Very Important

Many participants emphasized the critical role that additional practice plays in their language learning journey, pointing out various benefits and practical applications.

FIS3: "How important is that? Yeah, personally, it is very important for me, but I never had a chance to do this because yeah, I guess, yeah, they never had a chance to do this."

Participants consistently highlighted the necessity of practicing English outside the classroom to enhance fluency and gain practical language skills. This practice is seen as essential for real-world communication, professional development, and cultural integration.

E. Perception of requirements for improvement

Subcategory: Improvement requirement	Focus groups	References
Curriculum enhancement	1	1
Teaching methods	4	6
Support systems	6	16
Specific skills development	3	6
CSIR (culturally specific items representation)	2	2

When discussing how their language learning experiences could be improved, participants were clear and practical. Their comments moved across curriculum content, teaching approaches, support systems, and the representation of culture. While each participant framed their needs differently, the underlying message was consistent: language programs should feel relevant, interactive, and responsive to learners' lived realities.

Learners often expressed frustration with rigid or limited curricula, which they felt did not always reflect the complexity of their goals. Suggestions for more diverse topics, such as politics, religion, or current events, point to a desire for intellectually stimulating content that connects with both their personal interests and social contexts. Teaching methods were another focal point. Participants repeatedly emphasized the value of interactive, conversation-based activities, exposure to authentic language use, and direct engagement with native speakers. These preferences echo their earlier reflections on the importance of meaningful practice, showing how pedagogy and curriculum design are tightly intertwined in shaping their progress.

Support systems emerged as especially important. Learners did not only want access to resources like movies, podcasts, or vocabulary lists; they wanted structured opportunities to practice speaking and receive constructive feedback in real time. This aligns with their calls for improvement in speaking and listening, which were consistently highlighted as the skills most in need of development. Interestingly, several participants noted that they were already turning to digital tools and platforms in their own time, but they wanted these resources to be better integrated into their formal learning programs.

Finally, participants underscored the significance of cultural balance in the classroom. Many asked for space to compare Western cultural norms with their own, or for lessons that recognized and valued their cultural identities. These insights reveal not just a pedagogical preference but a deeper concern with equity and representation; learners want to see themselves in the material, not just adapt to it.

Overall, these perspectives suggest that effective improvement is not about adding more content or exercises but about creating a learning environment that blends academic rigor with cultural sensitivity, interactivity, and practical relevance (Littlewood, 2014; Piccardo & North, 2019). In doing so, programs can better address learners' aspirations while also recognizing the structural and social realities that shape their educational journeys.

E.1. Curriculum Enhancement

FIS4: "Like for example start talking about politics and religion and stuff like that. So we can keep talking about it."

E.2. Teaching Methods

FIS1: "Having interactions with native speakers like you and learning through games as you said, or the stories, some you know, real situations that we have to use the things that we learn."

E.3. Support Systems

F1S3: "Yeah. I found it very useful that you started to share your day with us, you know, then the expression that you use, the names, the vocabulary that you use was different from what we have learned in classrooms, you know? And I find it really interesting. I hope we can have more."

E.4. Specific Skills Development

F4S3: "I, as I told before, I know my weakness is listening and speaking. I should force myself to listen more. But I know why I'm blaze or there is a resistant. I know, I know. After a few minutes I get tired soon and I just give it up. And yeah, just engage more with people I mean and try to speak as much as I can."

E.5. Culturally Specific Items Representation (CSIR).

F2S2: "So if we have 50/50 of them, it's better because we can, um, um, see and um, we can understand that something about this country and possibly not about all of the content."

F2S1: "I think comparison is the most beneficial way. So we can have a topic and compare it in Western content to Eastern or cultural content, for example for political, for policy or for something cultural. We can discuss it in here and discuss it in our culture. So this comparison would be interesting."

F. Challenges and Obstacles in Learning

Subcategory: Challenges and obstacles	Focus groups	References
Time constraints	4	7
Motivation issues	2	3
Language barriers	2	2
Personal, emotional, or socio-cultural issues	3	7

Participants' accounts of the obstacles they faced in learning English painted a complex picture of structural barriers, personal struggles, and socio-cultural realities. Time was one of the

most persistent challenges. Many learners described the pressure of balancing work, studies, and family responsibilities, which left them with little space to engage meaningfully in language learning. For some, the issue was not a lack of motivation but simply the impossibility of fitting structured practice into already overcrowded lives.

Motivation itself, however, also emerged as a fragile element in the learning process. Learners described initial enthusiasm, often sparked by immigration goals, job requirements, or academic ambitions, that gradually gave way to discouragement once progress slowed. Several participants noted that without consistent opportunities for authentic practice, it became difficult to sustain the energy and persistence needed to move beyond the basics. This highlights how motivation is not only an individual attribute but also deeply tied to the availability of supportive learning environments.

Language barriers, unsurprisingly, were another significant obstacle, though participants often described them less in terms of technical difficulty and more in terms of emotional impact. Fear of making mistakes, of being judged, or of not being understood led some learners to withdraw from interactions altogether. Others admitted to seeking out friends from the same linguistic background rather than attempting conversations with English speakers, which limited their opportunities for growth. These dynamics underscore how language learning is deeply intertwined with identity and self-confidence, rather than being solely a matter of grammar or vocabulary acquisition.

From a plurilingual perspective, these experiences highlight the emotional consequences of learning in environments that implicitly privilege monolingual norms. Plurilingual approaches emphasize the value of learners' existing linguistic repertoires as cognitive and affective resources, enabling learners to draw on prior languages to support meaning-making, develop metalinguistic

awareness, and reduce anxiety associated with communication in the target language (Coste, Moore, & Zarate, 2009; Piccardo, 2013). Interpreted through this lens, participants' tendency to rely on same-language peers can be understood not simply as avoidance, but as a strategy for preserving confidence and identity in the face of linguistic vulnerability. This suggests that learning environments that explicitly legitimize plurilingual practices may help mitigate the emotional barriers that constrain participation and engagement.

Personal and socio-cultural challenges added another layer. Issues such as ADHD, anxiety, and low self-confidence were mentioned directly, revealing the emotional weight that language learning carries for many adults. For immigrant learners in particular, the classroom was never just a neutral space. It intersected with broader experiences of migration, belonging, and cultural adjustment. One participant reflected on the difficulty of communicating in Canadian society without adequate English, noting how cultural misunderstandings compounded the stress of speaking. These insights illustrate the intersection of linguistic, psychological, and social factors that shape learners' progress.

Overall, the obstacles identified by participants cannot be reduced to individual deficits. Rather, they reflect a web of structural constraints, emotional pressures, and cultural negotiations that shape adult ESL/EFL learning in Canada. Addressing these challenges requires more than language exercises; it calls for flexible program structures, supportive communities, and pedagogical practices that validate learners' identities while acknowledging the systemic realities they face.

F.1. Time Constraints

F1S3: "But personally, I have a lot of motivation because, I mean, we have to stay here, We have to learn English to find a job, to continue our education. Yeah, we, I guess we have enough. I have

personally enough motivation. But time is an obstacle. Obstacle. Yeah. And yeah, we are short of time."

F.2. Motivation Issues

F2S1: "I think these two are the main ones. Lack of time and lack of motivation. Lack of encouragement. Yeah, OK."

F.3. Language Barriers

F2S3: "Yes, I agree with (Student 2) because sometimes I wanna talk to other people but I am scared because if I speak they will know my language is still not good. But sometimes I prefer to take a seat separating from others and sometimes they judge me. Oh, he (name omitted) is an introverted person. But no, I'm not introverted. I am scared to make a communication with others."

F5S2: "Yeah, for me, I have time, I have motivation, maybe I don't have any English friends, as many as I should do. And the important thing is that I don't try to make friends with them, I try to find (same nationality) friends. That's easier for me. So I don't know if it's social culture or not, but if I had more English language friends, I guess I could have improved my English sooner and better."

F.4. Personal, Emotional, or Socio-Cultural Issues

F2S2: "I don't know how to put that in a full sentence. So we're actually wanting to be perfect, but we can't."

G. Measuring Progress and Evaluation

Subcategory: Measuring progress/evaluation	Focus groups	References
Formal assessment	2	3
Informal Assessment	2	2
Observable improvement	5	12

When discussing how they assessed their own progress, participants pointed to a range of formal and informal methods, but most emphasized the importance of real-world indicators over standardized testing.

Formal assessments such as CELPIP or IELTS were recognized as benchmarks, especially for those pursuing academic or professional pathways. A few participants saw these exams as useful ways to track improvement under pressure, though cost and accessibility made them impractical for regular use.

Far more common were informal measures rooted in everyday interactions. Learners spoke of gauging their growth through conversations with supervisors, peers, or strangers in public spaces. Some noted that their confidence in meetings or presentations was itself a marker of progress, while others paid attention to whether they could recall and use new vocabulary without hesitation. These moments, however small, gave learners a tangible sense of advancement.

Observable improvement was often the most meaningful form of evaluation. Participants described measuring success through increased fluency, reduced hesitation, or recognition from others. Feedback from friends, colleagues, or even the expressions on listeners' faces became a powerful way to confirm that their English had improved. In this sense, progress was not just about mastering rules or passing exams, but about being able to engage more fully and confidently in daily life.

What emerges from these narratives is that evaluation, for many learners, is relational and contextual. Success is measured not only through formal systems but through the ability to participate more effectively in their communities (McNamara, 2014; Shohamy, 2001). From an equity perspective, this underscores the importance of valuing multiple ways of knowing and measuring progress. Standardized tests may privilege certain learners, but informal and

experiential markers (such as confidence, comprehension, and social inclusion) offer a more holistic view of growth.

G.1. Formal Assessment

F1S1: "We can measure our improvement in real situations. For example, when I go to university and I have a presentation, I can check whether my English improved or not or as (Student 4) said by, for example, some refill exams such as CELPIP, IELTS. But I think the most important, the thing which we can measure with is in real situations as I said, and interact in daily interactions with others and UH for example in university classes to see whether we improve or not."

F1S4: "I take the CELPIP test."

F4S2: "Uhm, sending voice taking exam or prepare lecture in class. I have to be under pressure to yes do and just all right."

G.2. Informal Assessment

F1S3: "Personally, I don't have this measurement, you know? So yeah, I actually don't know how to read, but I find CELPIP test and IELTS test more expensive to measure."

F4S2: "Uhm, sending voice taking exam or prepare lecture in class. I have to be under pressure to yes do and just all right."

G.3. Observable Improvement

F1S1: "We can measure our improvement in real situations. For example, when I go to university and I have a presentation, I can check whether my English improved or not."

5.3. Phase 1: Discussion

This section presents some additional insights of the key findings in phase 1, framed within the theoretical perspectives of socially distributed cognition and Universal Design for Learning (UDL). The Seamless Learning Environment (SLE) demonstrated its effectiveness in supporting ESL learners in their goals of fluency, comprehension, cultural integration, and confidence through

interactive, multimodal, and inclusive instructional strategies. The subsequent segments explore best or ‘most appropriate’ instructional design practices for a seamless learning environment, examine effective methods for language learning as identified by participants, and highlight areas for further research.

5.3.1. Supporting Personalized Fluency Goals through Real-World Language Use

Participants consistently emphasized the importance of developing native-like fluency, particularly in conversational and presentation settings. This priority underscores the need for instructional activities that simulate authentic, real-world interactions. Role-playing exercises such as job interviews, community events, or informal social gatherings were particularly effective, as they allowed learners to rehearse colloquial expressions in context. These activities draw on principles of socially distributed cognition, where learners collaboratively construct meaning and exchange linguistic resources (Pea, 1993).

Multimedia-based discussions further supported this goal. Learners engaged with short video clips, TED Talks, and news segments featuring native speakers, which provided exposure to idiomatic expressions and presentation styles (Kern, 2006). By combining individual interpretation with group discussions, participants not only contextualized new vocabulary but also reinforced comprehension through peer scaffolding, reflecting Lantolf’s (2000) argument that language learning is enhanced through socially mediated practice.

In addition, self-paced and multimodal resources extended opportunities for practice beyond the classroom. Interactive digital tools, including AI-driven simulated conversations and idiomatic expression puzzles, provided learners with flexible ways to experiment with language. These activities reflect UDL’s emphasis on offering multiple means of engagement and

representation, ensuring that learners with different preferences and proficiencies could access the material (Arvanitis, 2019; Wang & Shao, 2024). Rose and Meyer's (2002) research supports this strategy, noting that varied presentation formats increase comprehension and sustain learner motivation.

Overall, these approaches highlight how the integration of real-world practice, multimedia, and flexible digital resources supports both the social and distributed aspects of language learning while promoting equitable participation.

5.3.2. Integrating Professional Language Skills for Career Advancement

Participants emphasized that English proficiency was closely tied to professional competence and career mobility. Instructional activities therefore focused on scenarios that mirrored workplace communication, such as mock client meetings, collaborative planning sessions, and group deductive tasks. These activities supported socially distributed cognition by enabling learners to co-construct strategies for effective communication, exchange feedback, and draw on one another's professional experiences (Brindley et al., 2009).

Task-Based Language Teaching (TBLT) offered a particularly strong foundation for this focus. Meaningful tasks such as preparing reports, negotiating in meetings, or delivering practice presentations reflected the language demands of professional environments. TBLT has been shown to enhance workplace language training by anchoring practice in authentic responsibilities (Ellis, 2003). Learners who engage in such tasks demonstrate greater retention and confidence, particularly when collaboration requires them to adapt language dynamically to solve problems together (Norris & Ortega, 2000; Rogoff, 1990; Oliech, 2023).

To reduce stress and support inclusivity, professional simulations were supplemented with multimodal tools such as templates, sample video clips, and online platforms for synchronous and

asynchronous collaboration. These flexible supports align with UDL by offering multiple ways for learners to prepare and practice, catering to diverse preferences and reducing anxiety associated with high-stakes performance (CAST, 2023). For example, learners who practiced presentations using sample videos and visual scaffolds reported feeling better prepared and more confident when transitioning to real-world tasks.

This combination of authentic professional practice, task-based collaboration, and multimodal scaffolding demonstrates how an SLE can foster equitable access to career-relevant language development while supporting the distributed and social nature of workplace communication.

5.3.3. Cultural Integration, Identity, and Contextualized Language Learning

A recurring theme in participants' reflections was the desire not only to master English but also to feel integrated into Canadian society. Language proficiency was therefore inseparable from cultural competence and identity negotiation. Learners wanted opportunities to understand everyday practices, humor, and social nuances, which in turn made them feel more included and confident in their new environment.

To address this, the SLE incorporated micro-learning activities drawn from culturally specific contexts such as local social media posts, humorous reels, and short videos reflective of Canadian life. Micro-learning, which delivers content in brief and manageable segments, has been shown to promote accessibility and sustained engagement while accommodating learners' busy schedules (Khong & Kabilan, 2022). In practice, these short tasks—analyzing a meme, commenting on a local event, or reflecting on cultural references in a short video—created “bite-sized” learning moments that linked language directly to the cultural setting learners were

navigating. When paired with peer reflection, they also supported socially distributed cognition, as learners compared interpretations and co-constructed understanding of unfamiliar cultural cues (Pea, 1993; Dingler et al., 2017).

Cross-cultural reflection was another key element. During synchronous and asynchronous discussions, learners shared observations of Canadian customs and compared them to their own cultural practices. These exchanges encouraged negotiation of meaning and intercultural empathy, echoing findings that culturally contextualized instruction not only builds linguistic competence but also promotes belonging and confidence (Duff, 2007). At the same time, discussions revealed gaps: many learners noted that conventional ESL materials felt overly Western-centric, which sometimes produced alienation rather than integration (Ottley, 2016). By deliberately incorporating learners' own cultural references alongside Canadian examples, the SLE sought to create balance, validating their identities while scaffolding their adaptation to a new cultural environment (Gay, 2018; Banks, 2016).

Interactive media like movies, cartoons, and short stories also played a significant role in this process. Learners valued these resources for their dual role in teaching colloquial phrases and exposing them to cultural norms. Activities such as role-playing based on a scene, filling lyric gaps in songs, or mapping vocabulary from a movie to real-life contexts not only reinforced language acquisition but also helped learners situate themselves socially. Research supports the role of authentic, multimodal texts in deepening grammar comprehension, idiomatic usage, and cultural awareness (Kramsch, 1993; Iranmanesh & Darani, 2018; Al-Jebreen & Al-Zamil, 2022). In alignment with UDL, offering subtitles, transcripts, and interactive exercises ensured learners could engage with these materials at different levels of proficiency (CAST, 2023).

Beyond technical competence, learners emphasized the personal dimension of cultural learning. Content that reflected resilience, identity, and personal growth resonated strongly, transforming language learning into a means of self-exploration. Comparative discussions of cultural traditions or narratives of resilience provided learners with both motivation and tools for reflecting on their identities in a multicultural space. Research underscores that when instruction incorporates culturally relevant materials, learners are more likely to retain vocabulary, engage critically, and see themselves as empowered rather than marginalized in their educational journey (Porto, 2010; Marshall, 2011; Roe, 2016; Kumar et al., 2018).

In this way, cultural integration was not a peripheral benefit of the SLE but a central element of its design. By embedding authentic, culturally relevant, and multimodal materials, and by valuing learners' own cultural perspectives, the program fostered both linguistic competence and intercultural adaptability. This dual focus reflects the equity-centered lens of the project: language learning becomes not only about communication, but also about identity, belonging, and the right to feel recognized in educational spaces.

5.3.4. Developing Core Communicative Competence: Vocabulary, Listening, and Speaking

Learners' reflections consistently underscored the challenges of developing core communicative competence, particularly in vocabulary acquisition, listening comprehension, and spontaneous speaking. While each of these skills presents unique difficulties, they are deeply interconnected and benefit from integrated instructional design. The SLE was therefore structured to address them holistically through scaffolded, multimodal, and socially distributed practices.

A. Vocabulary Acquisition

Participants highlighted the need for more targeted vocabulary learning that moved beyond rote memorization or translation from their first language. In response, the SLE incorporated context-based vocabulary drills, thematic word mapping, and interactive games that encouraged learners to associate new words with meaningful contexts.

These methods align with socially distributed cognition, as learners collaboratively built and reinforced vocabulary knowledge through shared activities (Pea, 1993). Research supports the use of spaced repetition and retrieval practice, both of which were integrated into the design, to improve long-term retention and reduce reliance on translation (Nation, 2001; Pavlenko & Jarvis, 2002). Incorporating multimodal tools—such as asynchronous vocabulary puzzles, role-playing games, and interactive digital exercises—aligned with UDL by offering multiple entry points for learners with varied preferences and proficiencies (Rose, Meyer & Gordon, 2014

B. Listening Comprehension

A recurrent theme in learners' accounts was the difficulty of processing rapid, native speech, particularly in informal or colloquial contexts. To address this, progressive listening tasks were designed, beginning with slower, clearly articulated speech and gradually advancing to fast-paced, accented, or conversational clips. Learners engaged in collective problem-solving by sharing social media content with unusual speech patterns and collaboratively identifying meaning, thereby practicing socially distributed strategies for comprehension. Shadowing exercises, completed both synchronously and with AI tools, were another key component.

Research confirms that shadowing enhances listening accuracy and parsing of natural rhythms by requiring learners to repeat phrases in real time (Delmonte, 2011; Lambert et al., 2017; Luque, 2022; Efeoglu, 2023). To further support diverse auditory needs, learners could access

multimodal resources such as transcripts, subtitles, and playback-speed controls, aligning with UDL recommendations for flexible access (CAST, 2023; Papadopoulou et al., 2013; Rost & Brown, 2016).

C. Speaking and Fluency

Perhaps the most pressing concern among participants was real-time speaking fluency. Learners described the anxiety of speaking in public, the stress of IELTS-like structured assessments, and the difficulty of transitioning into spontaneous, everyday conversations. To address this, the SLE emphasized peer-driven, low-stakes speaking tasks such as “speed talking” rounds, role-playing scenarios, and thematic discussions where learners practiced responding quickly and collaboratively.

These activities fostered socially distributed cognition by allowing learners to co-construct meaning, negotiate turns, and experiment with language in a supportive group setting (Swain & Watanabe, 2013; Ammar & Hassan, 2018). Multimodal supports—visual prompts, conversation apps with pronunciation feedback, and thematic dialogue cards—were included to diversify practice opportunities and to reduce anxiety associated with formal performance. Research indicates that such multimodal aids enhance engagement and fluency by encouraging experimentation in less pressured environments (Gilakjani, Ismail & Ahmadi, 2013; Kallinikou & Nicolaidou, 2019).

By weaving vocabulary, listening, and speaking activities into interconnected learning cycles, the SLE helped learners build fluency incrementally while maintaining motivation. Learners not only acquired new vocabulary but also practiced using it in listening and speaking tasks, reinforcing retention and confidence. This approach reflects the project’s dual focus on equity and distributed cognition: providing multiple pathways for learners to succeed, while

ensuring that practice remains collaborative, contextualized, and responsive to diverse learner needs.

5.3.5. Supporting Academic Development through Feedback, Writing, and Assessment

Participants emphasized the importance of feedback, writing practice, and assessment in their language learning journeys, but their preferences and experiences revealed both opportunities and tensions. These elements are closely tied to equity, as learners' backgrounds, time constraints, and access to resources shaped how they engaged with and benefited from academic development activities.

A. Feedback Practices

Learners expressed strong appreciation for constructive feedback, noting that it played a central role in boosting confidence and guiding improvement. Preferences varied, however, between immediate feedback during conversation, which some found motivating and reassuring, and delayed or written feedback, which others valued for its specificity and opportunity for reflection. For example, simultaneous correction during speaking helped certain learners avoid fossilizing mistakes, while others found it discouraging when it interrupted their flow.

This diversity highlights the importance of offering multiple feedback channels. Research supports balancing real-time correction with reflective written comments, as both contribute to fluency and long-term accuracy (Lyster & Saito, 2010; Ferris, 2014; Bitchener & Knoch, 2010). Digital feedback tools also proved valuable, allowing learners to receive timely and detailed responses outside synchronous sessions, promoting continuity of improvement (Brookhart, 2017; Burns & Garcia, 2018).

B. Academic Writing Development

Academic writing was consistently identified as an area of difficulty, particularly in terms of organizing arguments and producing precise, discipline-appropriate language. Learners described challenges in transitioning from conversational English to academic registers, often due to gaps in exposure and practice.

The SLE responded to these challenges through scaffolded, integrated activities, such as listening to short academic lectures and summarizing key points in writing. This approach allowed learners to build comprehension, synthesis, and argumentation skills incrementally, while avoiding overload given the limited human resources available. Drawing from Vygotsky's (1978) zone of proximal development, tasks were designed to be challenging but attainable, ensuring learners could gradually extend their competence. Research supports this scaffolded model, which has been shown to enhance ESL learners' ability to manage complex written tasks (Hyland, 2003).

C. Assessment and Reflection

Learners' perspectives on assessment were mixed, with some preferring formal, standardized measures and others favoring self-directed or peer-based approaches. Since the SLE was designed as a supplementary resource rather than a formal academic course, assessment was implemented through formative and reflective means rather than summative testing. Self-assessment tools, such as gamified quizzes and digital worksheets with instant feedback, were introduced to support autonomy and metacognitive awareness (Zimmerman & Schunk, 2011; Little, 2019).

Peer feedback and collaborative reviews offered additional opportunities for learners to evaluate progress collectively, aligning with the socially distributed cognition framework (Hutchins, 1995). Importantly, participants frequently identified observable improvements—such

as greater fluency, confidence, and ease of communication—as their most meaningful indicators of progress, suggesting that experiential measures often outweighed traditional academic evaluations.

By integrating feedback, writing practice, and reflective assessment into a cohesive framework, the SLE created opportunities for learners to build academic competence while maintaining agency and motivation. These practices also advanced equity by accommodating diverse needs: offering multiple modes of feedback, balancing academic and real-world writing tasks, and validating personal methods of progress tracking alongside formal measures. Together, these findings suggest that a flexible, learner-centered approach to academic development not only strengthens language skills but also fosters a sense of ownership and confidence in learners' trajectories.

5.3.6. Cultural Integration, Identity, and Equity in the Seamless Learning Environment

Participants consistently highlighted the role of cultural integration in their language learning, linking English acquisition not only to fluency but also to their ability to “fit in” socially, professionally, and academically. For many, language and culture were inseparable, as mastery of English also required navigating Canadian customs, values, and social norms. This finding underscores that an equitable Seamless Learning Environment (SLE) must move beyond functional language instruction to embrace cultural and identity dimensions of learning.

A. Cultural Representation and Belonging

While some learners felt that their cultural identities were reflected in classroom practices, others experienced the curriculum as overly Western-centric, which limited relatability and, at

times, generated feelings of exclusion. Such disparities point to the risks of reinforcing dominant cultural narratives in ESL settings.

Research shows that culturally relevant pedagogy fosters belonging and increases learner motivation by validating diverse identities (Gay, 2018; Banks, 2016; DeCapua & Marshall, 2015). Within the SLE, these concerns were addressed through the integration of diverse, authentic materials, ranging from Canadian social media posts and popular culture references to comparative cultural discussions, designed to reflect learners' lived realities while also offering opportunities to explore and negotiate cultural differences.

B. Identity Negotiation and Learning

Learners described English learning as deeply tied to their evolving identities in Canada, often creating tensions between maintaining their cultural heritage and adopting new forms of self-expression. This reflects what Duff (2015) describes as the identity-shaping power of second language acquisition, where learners construct hybrid identities through language use in multicultural contexts.

Participants shared that culturally contextualized activities, such as reflecting on traditions from their own backgrounds while engaging with Canadian customs, supported a sense of pride and connection rather than assimilation. These practices resonate with the socially distributed cognition framework, where knowledge is co-constructed through social interaction and shared perspectives (Hutchins, 1995; Pea, 1993).

C. Culturally Responsive Practices

The SLE intentionally incorporated culturally responsive strategies, including comparative cultural analysis, peer storytelling, and thematic discussions on global and local issues chosen by learners. These activities promoted intercultural competence and peer-driven meaning-making,

aligning with research that highlights the value of collaborative cultural exploration in ESL contexts (Porto, 2010; Orosco, 2014). Importantly, this approach also offered learners agency in shaping the curriculum, increasing both engagement and relevance (Nunan, 2013).

At the same time, it is important to reiterate that culturally responsive pedagogies have been critiqued for, at times, reducing culture to static or essentialized categories, or for being implemented at a surface level without engaging the broader structural and relational dimensions of learners' experiences (Paris & Alim, 2014; Ladson-Billings, 2014; Alim et al., 2017; Nasir et al., 2020). In response to these critiques, culturally responsive practices within the SLE were not treated as the inclusion of predefined cultural content, but as emergent and participant-driven processes. Rather than positioning culture as something to be represented, the SLE created space for learners to draw on their own linguistic and cultural repertoires, negotiate meaning collaboratively, and shape the direction of discussion based on their lived experiences.

In this sense, culturally responsive practice was enacted relationally, through interaction, dialogue, and shared participation, rather than through predetermined cultural categories or instructional templates. This approach aligns with the broader design of the SLE as a socially mediated learning environment, where responsiveness emerged through ongoing engagement with participants rather than being prescribed in advance.

D. Equity and Intersectionality

From an equity perspective, it was clear that cultural integration was experienced unevenly across participants. Factors such as immigration status, gender roles, and socioeconomic constraints influenced how easily learners could engage with cultural content and how comfortable they felt in negotiating identity. For example, women with caregiving responsibilities reported less time for social immersion, while others with precarious employment noted heightened stress,

which limited their ability to focus on cultural nuances in language learning. These findings echo calls within equity-focused scholarship to consider intersectionality when designing inclusive curricula (Crenshaw, 1989; Gay, 2018).

In the SLE, efforts to address these inequities included offering flexible, multimodal cultural activities that could be accessed asynchronously, ensuring learners with limited time could still participate meaningfully. Peer-led discussions further allowed learners to draw from their own diverse cultural knowledge, creating a more balanced space where multiple voices could coexist and scaffold each other's learning.

By foregrounding cultural integration and identity alongside language development, the SLE demonstrated that equitable ESL instruction requires more than teaching grammar or vocabulary. It involves creating a learning community where diverse cultural perspectives are valued, learners' identities are acknowledged, and structural barriers to participation are mitigated. In doing so, the SLE supported not only linguistic competence but also learners' ability to navigate and thrive in multicultural environments.

5.3.7. Interactive, Game-Based, and Collaborative Learning in the SLE

Participants repeatedly emphasized that learning was most meaningful when it was interactive, collaborative, and enjoyable. Activities such as group discussions, vocabulary games, and peer-led tasks were identified as critical for sustaining engagement, building confidence, and strengthening language retention. These findings underscore the role of socially distributed cognition in the Seamless Learning Environment (SLE), as knowledge was actively co-constructed through interaction and collective problem-solving (Hutchins, 1995; Pea, 1993).

A. Group Discussions as Shared Knowledge-Building

Facilitated group discussions, whether synchronous “coffee chat” sessions or asynchronous threads on the platform, enabled learners to negotiate meaning, refine their ideas, and expand their vocabulary within a supportive environment. Learners valued these exchanges not only for the opportunity to practice conversational English but also for the sense of community they fostered. Research supports the value of discussion-based learning in ESL contexts, highlighting its effectiveness in promoting oral fluency, critical thinking, and learner confidence (Lightbown & Spada, 2021). By encouraging learners to build on one another’s contributions, group discussions mirrored authentic communicative dynamics while embedding social learning into the process.

B. Game-Based Learning and Motivation

Interactive games were particularly effective in reducing anxiety and promoting engagement. Vocabulary challenges, role-playing activities, and collaborative story-building games provided low-pressure contexts for experimentation and practice. Research indicates that game-based learning enhances vocabulary retention and communicative competence by connecting language practice with enjoyable, context-rich experiences (Benoit, 2017; Schmitt, 2019; Hung & Yeh, 2023). Within the SLE, both digital and in-person games were implemented, including virtual board games, puzzles, and quiz-show style competitions. These activities catered to diverse learning styles while sustaining motivation through play and collaboration, aligning with UDL principles of multiple means of engagement (CAST, 2023).

C. Collaboration and Peer Scaffolding

Learners consistently expressed the value of learning “with and from” their peers. Activities such as joint problem-solving, collaborative narratives, and shared vocabulary mapping allowed participants to scaffold one another’s progress, an essential aspect of distributed cognition

(Rogoff, 1990). These peer-led interactions created reciprocal learning opportunities, where more advanced learners could support beginners while also reinforcing their own knowledge. Research highlights the effectiveness of peer scaffolding in ESL contexts, noting its role in sustaining linguistic improvement and fostering learner autonomy (Brindley et al., 2009; Ammar & Hassan, 2018).

D. Equity and Accessibility Considerations

From an equity lens, interactive and game-based strategies also helped reduce disparities in participation. For instance, introverted learners, who often struggled to engage in traditional classroom discussions, found that asynchronous games and peer-led digital exchanges allowed them to participate at their own pace. Studies show that providing multiple participation pathways, particularly through asynchronous forums, can reduce anxiety and enhance confidence among quieter learners (Dörnyei et al., 2019; Raley, 2023). Furthermore, offering games and discussions in flexible formats addressed barriers such as limited time or caregiving responsibilities, ensuring broader inclusion.

By embedding interaction, collaboration, and game-based approaches into the SLE, the instructional design promoted both social constructivist learning and equity-driven practice. Learners were able to engage deeply with language in ways that were dynamic, flexible, and culturally relevant, ensuring that language learning was not only effective but also meaningful and inclusive.

5.3.8. Feedback, Assessment, and Learner Autonomy

Feedback practices emerged as central to participants' experiences, not only in shaping confidence but also in influencing the pace and depth of their language development. Learners valued a range of feedback types, including immediate verbal correction during conversation,

detailed written comments, and digital feedback provided after class sessions. Real-time correction was seen as particularly useful for oral fluency, helping learners avoid fossilizing errors, though some cautioned that too much correction in the moment could undermine confidence, especially for beginners.

Written feedback, by contrast, offered a reflective resource that could be revisited, giving learners the opportunity to refine expression and build accuracy over time (Bitchener & Knoch, 2010; Ferris, 2014). Digital feedback provided consecutively after sessions, often via the platform, was also seen as valuable, balancing positive reinforcement with constructive critique. This form of feedback allowed learners to implement suggestions incrementally, while giving them space to process their learning without the immediate pressure of live correction (Brookhart, 2017; Burns & Garcia, 2018). Collectively, these practices highlight the importance of balancing timeliness, tone, and modality of feedback to support both skill development and learner confidence.

Assessment was another area where participants expressed clear preferences. While some learners acknowledged the value of formal assessments in tracking progress, many voiced skepticisms about standardized testing as the primary measure of growth. Instead, they emphasized formative and process-oriented approaches such as peer review, self-assessment, and reflective activities. Personalized tracking tools, including digital quizzes, live worksheets, or gamified challenges, were particularly appreciated for enabling learners to monitor their own progress in a non-threatening way.

These methods reiterate the evidence that formative, low-stakes assessment encourages sustained engagement and provides learners with actionable insights into their own development (Brookhart, 2013; Brown & Abeywickrama, 2019). Importantly, these approaches also reflect

UDL principles by diversifying how learning progress is measured and validated, accommodating varied learner needs and preferences.

Structured repetition and routine practice further reinforced engagement. Many learners explained that daily or weekly interactive prompts, such as commenting on a short video or engaging in quick vocabulary games, provided the consistency they needed to maintain momentum. This echoes research on the importance of regular, scaffolded practice for language retention (Nation & Macalister, 2020; Jug et al., 2019). Routine, low-stakes tasks embedded within the Seamless Learning Environment helped learners remain engaged even when external obligations competed for their time.

Finally, the theme of autonomy emerged strongly. Learners who had opportunities to direct aspects of their own learning, such as choosing weekly topics for discussion, engaging in self-paced digital tools, or reflecting on their cultural identity within language use, reported greater motivation and satisfaction (Benson, 2007; Irgatoğlu, 2024).

At the same time, participants voiced frustrations when materials felt overly Western-centric or failed to acknowledge their own linguistic and cultural backgrounds. This underscores, once again, the importance of culturally responsive pedagogy, which affirms learners' identities and creates inclusive spaces for authentic participation (DeCapua & Marshall, 2015; Gay, 2018). At the same time, it is important to acknowledge that culturally responsive pedagogy has been subject to critique within the literature. Scholars have cautioned that such approaches can become reductive or essentializing when culture is treated as fixed, or when responsiveness is enacted at a surface level without engaging the broader structural and relational dimensions of learners' experiences (Paris & Alim, 2014; Ladson-Billings, 2014). In response to these critiques, this study does not treat culture as a static attribute to be accommodated, but rather as dynamic, relational,

and co-constructed within the learning environment, emphasizing learner agency, interaction, and evolving identities .

By combining feedback that is constructive and balanced, assessments that are meaningful and varied, and opportunities for autonomy and cultural representation, the SLE fostered a learning environment that was not only linguistically supportive but also equitable and empowering.

5.4. Chapter Summary:

To synthesize the findings from Phase 1, which functioned as a needs assessment and informed the implementation of instructional practices within the Seamless Learning Environment (SLE), the table below brings together participants’ expressed needs, challenges, and learning preferences alongside the practices identified as most responsive to those needs. Organized thematically, the table illustrates how learners’ experiences align with, extend, or reveal limitations in existing SLE design elements. This overview provides a clear foundation for the interpretive, practical, and design-oriented analysis developed in the subsequent chapter.

Phase 1 Theme (Chapter 5)	Interpretation	Promising Practice (RQ3)	Rationale in choosing RQ3 relevant practice	Concrete Examples from the SLE	Corresponding Theme in Phase 1 Findings (5.2)	Corresponding Discussion subheading (5.3)
1. Need for Flexible, Multimodal Access	Learners need anytime/anywhere study across devices and media; short, opportunistic study windows.	Multimodal design; asynchronous access; mobile-first resources; simple, consolidated platform.	Reduces time/work/care constraints; lowers access barriers; supports persistence for adults with complex schedules.	Telegram as hub for mobile/desktop access; multimodal materials (slides, videos, audio, tasks); self-paced resources and exemplars.	Preferred Learning Strategies; Digital Practices & Technology Needs.	Personalization, Challenges, and Autonomy in Learning;
2. Need for Social Interaction & Community	Learners want peer presence, belonging, and interactive practice.	Synchronous “coffee chats”; peer-led threads; interaction-rich tasks.	Builds belonging, motivation, and equitable engagement via social presence.	Coffee Chats; asynchronous peer threads; co-constructed artefacts.	Preferred Learning Strategies; Affective Needs.	Interactive, Game-Based, and Collaborative Learning in the SLE; Group Discussions as Shared Knowledge-

						Building; Collaboration and Peer Scaffolding.
3. Desire for Authentic, Real-World Language Use	Learners want preparation for Canadian professional/civil/social contexts.	Authentic tasks (TBLT); role-plays; micro-learning tied to lived experience.	Contextual relevance → transfer to real life; supports equity through meaningful participation.	Workplace-inspired tasks; multimedia discussions (TED/news); real scenarios for presentations & meetings.	Learners' Goals & Aspirations.	Supporting Personalized Fluency Goals through Real-World Language Use; Integrating Professional Language Skills for Career Advancement.
4. Need for Cultural Integration & Identity Validation	Learners seek Canadian cultural orientation without erasing home identities.	Plurilingual tasks; identity-affirming topics; culturally relevant media.	Affirms identities; avoids assimilationist pressure; supports equitable participation.	Cultural news/memes/reels; compare expressions across languages; peer cultural knowledge-sharing.	Learners' Goals & Aspirations (cultural participation); Preferred Learning Strategies (authentic media).	Equity and Intersectionality (cultural integration unevenness & responses).
5. Need for Reduced Anxiety & Higher Confidence	Learners fear mistakes; prefer low-stakes, repeated practice with supportive feedback.	Low-stakes speaking tasks; game-based learning; timely supportive feedback.	Addresses psychological inequities; builds confidence to participate.	Games/puzzles/role-plays; templates/models; immediate but supportive feedback; store "successful attempts."	Affective Needs (Confidence, Anxiety, Motivation).	Game-Based Learning and Motivation (anxiety reduction); Personalization, Challenges, and Autonomy (guided support).
6. Need for Peer Support & Collaborative Scaffolding	Learners rely on peers for clarification and meaning-making.	Collaborative tasks; co-creation; distributed cognition routines.	Community scaffolds comprehension and confidence; equitable knowledge building.	Co-created artefacts; collaborative discussions; peer-led tasks.	Preferred Learning Strategies (peer help).	Collaboration and Peer Scaffolding; Interactive, Game-Based, and Collaborative Learning.
7. Need for Clear Structure & Self-Regulation Support	Autonomy is valued but can become overwhelming without structure.	Structured pathways; exemplars/templates; frequent check-ins; workflow cues.	Scaffolding protects learners with lower tech-/study-skills; keeps autonomy productive.	Organized sequences; models/exemplars; simple navigation to reduce cognitive load.	Expectations of Instructors & Programs; Digital Practices & Technology Needs.	Personalization, Challenges, and Autonomy in Learning (balance autonomy + structure).

Table 3. Phase 1 summary chart

In summation, the synthesis presented in Table 3 (derived from analysis in section 5.2 and discussions grounded in literature from section 5.3) illustrates several recurring patterns across the thematic categories identified in Phase 1, demonstrating that adult ESL/EFL learners' needs, motivations, and challenges are deeply shaped by their social positions, lived realities, and learning ecologies. Across multiple themes in the table, participants consistently articulated language learning as a socially mediated process shaped by peer interaction, emotional safety, access to resources, and the ability to integrate learning into everyday life. At the same time, the table highlights persistent constraints related to time, caregiving responsibilities, digital access, and unequal availability of learning supports, underscoring how engagement and participation are unevenly distributed even within a shared learning environment. These patterns are consistent with prior research on adult second language learning, which emphasizes the socially situated nature of language development and the role of material, emotional, and temporal conditions in shaping learner engagement and participation (Dörnyei & Ushioda, 2011; Norton, 2013; Sharples et al., 2015).

From an analytical standpoint, the patterns synthesized across the table align strongly with the study's theoretical foundations in social constructivism and distributed cognition. Learners' accounts show that knowledge construction, motivation, and agency are distributed across interactions with peers, technological tools, and social contexts, rather than residing solely within individual cognition. This is particularly evident in themes related to collaboration, authentic communication, and learning beyond the classroom, reinforcing the relevance of a Seamless Learning Environment (SLE) as a framework for understanding adult language learning across contexts. This interpretation aligns with social constructivist and distributed cognition perspectives

that conceptualize learning as emerging through interaction with others, tools, and contexts rather than as an individual cognitive process (Vygotsky, 1978; Hutchins, 1995; Lantof & Thorne, 2016).

Although Universal Design for Learning (UDL) did not guide the thematic coding of Phase 1 data, the needs and tensions identified across the table make visible the conditions that render UDL pedagogically significant. Learners' experiences point to the need for flexible pathways for engagement, representation, and expression in response to concrete constraints such as fluctuating schedules, personal vulnerability, and differing proficiency trajectories. Similarly, issues of equity and inclusion surface across themes related to access, identity, and belonging, indicating that instructional design choices must attend to power, recognition, and material conditions alongside linguistic development.

Ultimately, the synthesis presented in Table 3 demonstrates how Phase 1 directly addresses Research Question 3 by systematically identifying learner needs, goals, and challenges and translating these into adaptive instructional practices aligned with the core principles of a Seamless Learning Environment (SLE). Rather than treating learner preferences as isolated inputs, Phase 1 analysis foregrounds how participants' articulated needs for flexibility, authenticity, multimodality, and social interaction informed the identification of promising instructional practices that support continuity across learning contexts. These practices are not positioned as prescriptive solutions, but as context-responsive design strategies that reflect Universal Design for Learning (UDL) principles as operationalized within the SLE. In this sense, Phase 1 functions as both a needs assessment and an analytic bridge, establishing an evidence-based foundation for the design decisions enacted in the learning environment and clarifying how learner-centered practices can be intentionally embedded within seamless language learning environments.

To further clarify how the Phase 1 needs assessment informed the conceptualization of the Seamless Learning Environment, Figure 7 (see below) presents a visual synthesis of the relationship between participant themes and core SLE principles. The inner circle represents the SLE core, while the surrounding segments depict the seven themes identified through Phase 1 analysis. Each theme is associated with one or more foundational SLE principles, illustrating how learner-identified needs align with mechanisms such as continuity across contexts, social knowledge construction, personalization, and multimodal access. Best read as an alignment map rather than a hierarchical model, this figure illustrates how Phase 1 findings were translated into design priorities and promising practices, thereby addressing Research Question 3 and establishing an analytic bridge to the post-implementation analysis presented in Chapter 6.

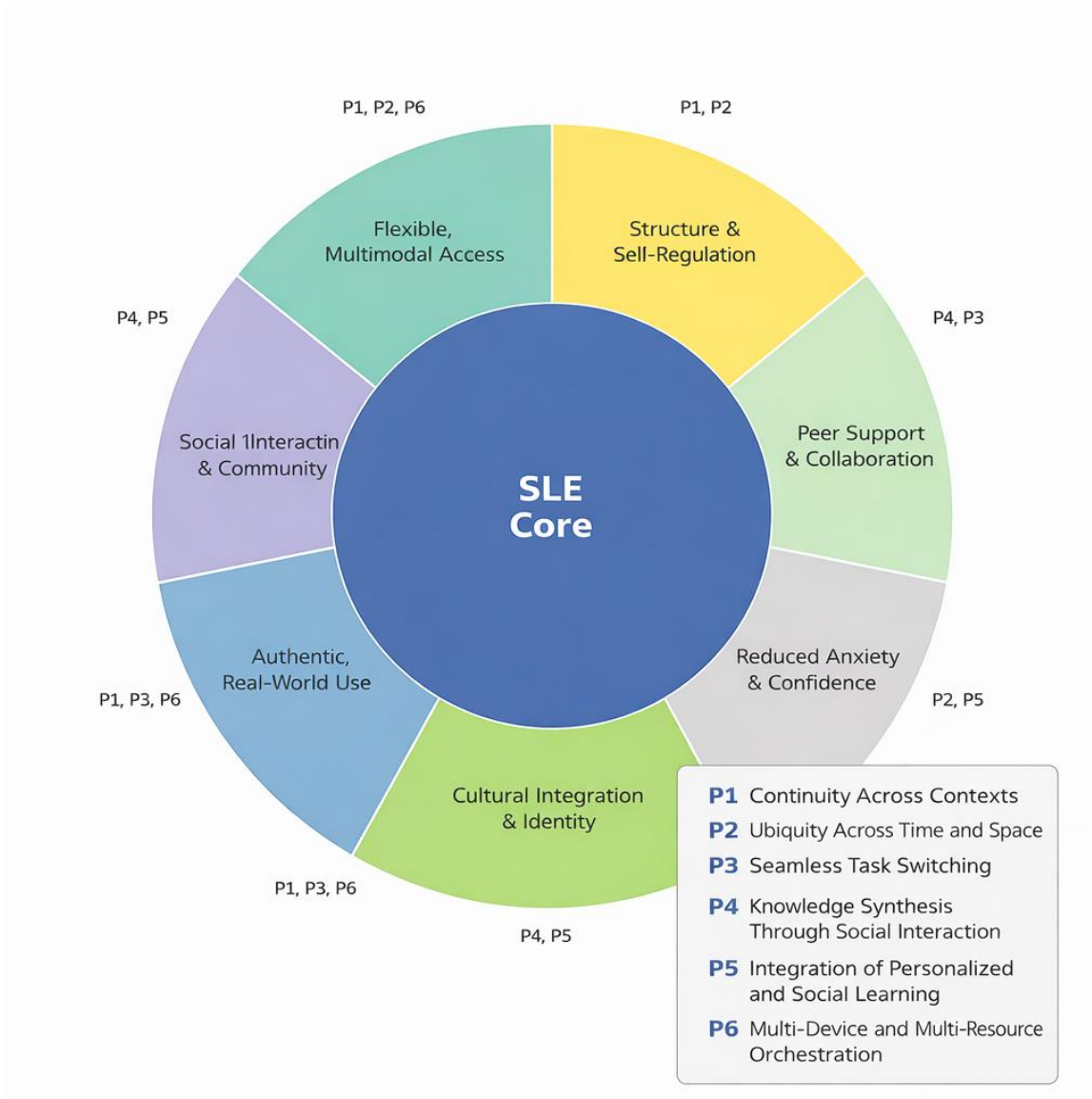


Figure 7. Hybrid sunburst model illustrating the relationship between the Seamless Learning Environment (SLE) core and Phase 1 participant themes.

6. Phase 2 Data Analysis, Results and Discussion

This segment presents the findings from the data collected through a series of focus groups. The purpose of these focus groups (in phase 2) was to explore post-implementation questions aimed at identifying the effects of the implementation of a seamless learning environment on the learning experience of adult ESL/EFL learners from their perspective. The analysis will shed light

on the individual and collective learning experiences of the participants within the seamless learning environment (SLE), as a social/collaborative language learning platform and their perceptions on the effectiveness of the SLE in providing them with a more inclusive and optimized learning experience. By examining participants' perceptions, we can gain insights into the SLE's potentials in fostering inclusivity and meeting diverse learner needs, consisting with principles of Universal Design for Learning (CAST, 2023). Such insights are critical for understanding how tailored, collaborative environments can optimize adult ESL/EFL learning experiences, creating equitable and engaging spaces for language development.

6.1. Developing Codes for phase 2

This section details the thematic analysis coding process employed to analyze the qualitative data collected from the five focus groups in phase 2 (post-implementation) conducted with participants in the seamless learning environment upon completing the program for 24 consecutive weeks. The goal of this analysis was to identify elements in the personal and collective experiences of the participants that most noticeably contributed to providing a more inclusive and effective learning experience for them, promoting autonomy, agency, and enhanced engagement.

6.1.1 Generating Codes

Once familiarization was achieved, the next step was to generate initial codes. A preliminary coding framework was developed based on the initial notes and the research questions guiding this study. This framework provided a structured approach to coding but was flexible enough to be refined as coding progressed. The transcripts were reviewed line-by-line, and initial codes were applied to segments of text relevant to the research questions. Each code captured a key aspect of the data.

The initial codes were then examined to identify potential themes, based on the initial thematic bundling of the chronological order of posed questions in the focus groups. Each category was then divided into more specific subcategories based on participants' responses to the questions. The thematic analysis resulted in the identification of the following key themes. Each theme is discussed in detail further below.

6.2. Findings of Phase 2

The purpose of Phase 2 was to examine how the implementation of the SLE affected the learning experiences of the participants, which elements were most significant in enhancing and optimizing their experience, and what contributions were made toward enhancing their learning journey, in response to **research question 1**. To what extent does the implementation of a seamless learning environment impact the motivation and engagement of adult ESL/EFL learners in Canada? Consequently, the analysis of data in this phase delves into investigating the potential answers to these questions and the subsequent discussions that arise. The thematic analysis of qualitative data, prepared as outlined in the previous section, illuminates the participants' learning experiences following the implementation. It explores whether and how certain elements were effective in improving their experience, as well as how specific pedagogical, instructional design, and (extra)curricular choices influenced their learning. This analysis seeks to identify elements that were central in providing a more inclusive and optimized learning experience, with the overarching aim of fostering increased autonomy and agency in language learning for adult ESL/EFL students. The resultant analysis examines each identified theme in detail, illustrating these themes with direct quotes from focus group participants to offer a comprehensive understanding of the data.

The tables below represent the data collected under each of the major themes. Each subcategory of a major theme is represented in the heading of the table, and each topic division of the subcategory is represented numerically. The column titled “focus groups” represents the number of the focus groups (out of a total of 5) where the topic was mentioned, and the column titled “references” represents the number of times the topic was mentioned in all groups. Direct illustrated quotes from participants are used following the initial analysis to offer a tangible example for each topic. This pattern is repeated for each subcategory.

A. General Learning Experience

A. General Learning Experience	Focus groups	References
Positive Learning Aspects - Elements That Enhanced Learning	5	11
Negative Learning Aspects - Elements That Hindered Learning	1	1
Memorable Course Features - Aspects specifically mentioned by participants as impactful.	5	10

Participants’ reflections on their overall learning experiences in the Seamless Learning Environment (SLE) highlighted what worked well, what challenges remained, and which course features left the strongest impression. These accounts not only validated many of the design choices made in Phase 1 but also offered new insight into how learners engaged with the SLE in practice.

A.1. Positive Learning Aspects

Learners repeatedly emphasized the cultural enrichment and real-life relevance of the sessions. Beyond language skills, they valued exposure to Canadian culture and the chance to apply what they learned to everyday life:

FBG1S1: "It was not only learning English but learning so many other things about the cultures here and how people behave."

FB1S2: "I learned a lot about culture in Canada and also about the English and it was very beneficial for me too."

FBG4S2: "There are lots of tips or recommendations to manage immigration difficulties... I love that you choose a topic for conversation, and it helps me to give my experience to other people and use other experiences."

The flexibility of the online platform and the ability to work at one's own pace were also highly valued. This gave participants the freedom to adapt their studies to their personal routines:

FBG2S1: "I could follow it in my own time and my own pace. So that was most beneficial and also like being in a more comfortable setting online."

FBG5S3: "I liked that I could learn at my own speed and the different types of activities like videos and quizzes help me understand better."

Interactive and engaging activities, such as games and multimedia lessons, kept participants motivated and made the experience enjoyable:

FBG4S1: "The most thing I liked about this experience was the games that you offered, and we played."

FBG5S2: "Loved the interactive lessons and the teacher made learning engaging."

The supportive and stress-free atmosphere allowed learners to contribute without fear of making mistakes:

FBG3S2: "The sense of free that I had in class... Everybody can speak freely, and also it was a good experience because you don't have any kinds of stress."

FBG4S2: "This class gives me the opportunity to talk without any fears that people judge me or make me nervous."

Technology choices also played a role. Participants appreciated the use of messenger apps for learning, which felt more accessible than traditional platforms:

FBG5S1: "I like language learning apps, especially being in a messenger app... It's something that is better than like being on a website."

Collaboration with peers was another strong theme. Learners valued exchanging perspectives and experiences, which enriched their understanding of language and culture:

FBG2S2: "I love to speak with people, communicate with them... I learned some new sentences, new daily words that I use in my daily conversations."

FBG3S1: "You learn about another opinion in English, in life, in any aspects."

Finally, participants linked their engagement to goal-oriented outcomes such as exam preparation and adapting to new environments:

FBG4S1: "It was helpful... at the same time that I was going to give a CELPIP exam. So I asked the question that was my question for my CELPIP exam."

FBG4S2: "There are lots of tips or recommendations to manage immigration difficulties."

A.2. Negative Learning Aspects

While participants praised many elements of the SLE, they also highlighted areas for improvement. Some wished for more focused instruction on particular skills, such as writing or speaking:

FBG3S1: "One major problem is not a specific title to think about. I prefer to have classes just about writing or just speaking to learn about just speaking or the writing."

Others noted that the diversity of participants, while enriching in many ways, could also be challenging when expectations or approaches differed:

FBG3S1: "Another problem I think I had is that there is a variety of the culture, ages, and opinions."

A.3. Memorable Course Features

When asked what aspects stood out most, participants often returned to the inclusive and welcoming atmosphere:

FBG1S1: "The best aspect of the class was the friendly atmosphere... we didn't have this fear not to talk or make mistakes. This was great for me, being involved in discussions."

FBG1S2: "Your personality was the best... in this class, I feel free to speak, and yeah, it was great for me."

Engaging content, such as free discussions and interactive lessons, also left a lasting impression:

FBG3S1: "The most effective part of the classes is free discussion... I learned some new things about the culture in detail."

FBG4S1: "The most thing I liked about this experience was the games that you offered and we played."

Flexibility again emerged as a defining strength:

FBG5S2: "Loved the flexibility to study whenever I had time."

FBG5S3: "I liked that I could learn at my own speed, and the different types of activities like videos and quizzes helped me understand better."

Finally, personalized opportunities to shape the learning experience and its practical relevance were noted as particularly impactful:

FBG3S2: "At the end of the class, you asked us what we'd like to have for the next session and what we need. This chance to think about our needs was great."

FBG4S1: "I was going to give a CELPIP exam... I asked the question that was my question for my CELPIP exam. It was a good experience for me."

FBG2S2: "I love to speak with people, communicate with them by the usual words I have in my memory. Also, I learned some new sentences, new daily words that I use in my daily conversations."

B. Motivation and Engagement

B. Motivation and Engagement	Focus groups	References
Motivational Triggers - Factors that encouraged engagement.	5	12
Engagement barriers - Challenges that decreased engagement.	3	5
Overcoming challenges - Strategies used by participants to navigate challenges.	3	5

Phase 2 highlighted both continuity and change in how participants experienced motivation and engagement once the Seamless Learning Environment (SLE) was fully implemented. Unlike Phase 1, where motivation was discussed largely in terms of anticipated challenges and aspirations, here participants reflected on how their motivation played out in practice; what encouraged them to participate, what barriers they encountered, and how they developed strategies to remain engaged.

B.1. Motivational Triggers

Participants repeatedly pointed to the supportive and inclusive atmosphere as a key motivator. The absence of fear around making mistakes encouraged active participation:

FBG1S1: “Well, UM. In my opinion, the best aspect of the class was the friendly atmosphere... we didn't have this fear not to talk, not to make mistakes... This was great for me, being involved in discussions and... topics that we have in common.”

FBG1S2: “In my opinion, uh first of all your personality uh was the best... when my English is not good and uh I'm struggling... I feel free to speak and yeah, it was great for me.”

Compared with the pre-implementation stage, where learners expressed a lack of confidence, these reflections show how a safe and collaborative environment actively reshaped participation. Confidence grew not only as an individual trait but through collective reassurance. The SLE also created more space for personal expression. Several participants valued opportunities to share their experiences and learn from others in real time:

FBG2S2: “I enjoy and I love to speak with people, communicate with them by the usual words I have in my memory... I learned some new sentences, new daily words that nowadays I use in my daily conversations with people.”

FBG3S1: “I think to me the most important part and the most effective part of the classes is free discussion... I learned some new news and new things about the culture in Ottawa.”

This reflects a shift from Phase 1, where learners anticipated needing relevance and interaction, to Phase 2 where they could confirm that interactive discussions met those needs.

Flexibility and customization were additional motivators, with learners noting that being consulted about content gave them a sense of agency:

FBG3S2: “At the end of the class, you asked us what do you like to have for the next session and also what you need, and this chance that we could think about our needs.”

FBG5S4: “That was like I could regulate myself... and I really like the experience.”

Interactive and engaging methods such as games and collaborative activities also surfaced repeatedly:

FBG4S1: “The most thing I liked about this experience was the games that you offered and we played.”

FBG5S2: “Loved the interactive lessons, and the teacher made learning engaging.”

Finally, participants connected motivation to the practical relevance of tasks:

FBG4S1: “Oh, well, for me, it was helpful. It was somehow at the same time that I was going to give a CELPIP exam. So I asked the question that was my question for my CELPIP exam because I was doing the self study.”

FBG2S2: “I learned some new sentences, new daily words that nowadays I use in my daily conversations with people.”

FBG3S1: “I remember I had classes free discussion about the, the culture, the different culture in Canada. And after classes I I investigated in more detail in the website.”

These examples demonstrate how the SLE’s flexible and interactive structure enabled learners to integrate class activities into their immediate academic, professional, and personal goals.

B.2. Engagement Barriers

Despite these motivators, several barriers persisted. Time constraints remained the most common challenge, as learners struggled to fit sessions and preparation into their daily lives:

FBG1S2: “Because uh. Because of my special uh, my special daily routine. Uh, I didn’t. I didn’t have enough time to to study about the topic of the class. Yeah, it was my bad. But that, uh, yeah, that’s it. That’s it.”

Some also described difficulties forming connections in the online format, noting the limited interaction outside structured sessions:

FBG2S1: “Well, challenges for the online platform, I guess like I would be getting to know like the other people like in the course, but that also like would happen if it was an in person course with that many people in the class.”

Finally, confidence remained an ongoing issue, though here learners described gradual improvement:

FBG2S2: “All right. Again, I studied in our first session that both impact and challenges was about my confidence. And I had a very huge problem about my confidence. And I at first I couldn't speak in, you know, in with people.”

This highlights a key difference from Phase 1: learners not only named confidence as a barrier but also reflected on how the SLE created conditions for growth.

B.3. Overcoming Challenges

Learners described adapting routines, building confidence, and leveraging both independent practice and peer support as strategies to overcome barriers.

FBG1S2: “Actually, I should change my lifestyle... I just have time to study in the weekend... I should cut, cut the part of circuit and study more.”

FBG2S2: “At first, I couldn't speak in, you know, in with people. And during the session, I understood that it doesn't have a problem if I, you know, made a mistake... it was very impactful for my growth. And we learn from each other...”

FBG2S2: “I just crammed in little times during the day... bits and pieces and got through it.”

FBG2S2: “Sometimes I felt shy to speak in front of the others, but I practiced speaking more at home... and when I didn't understand something, I asked the teacher or classmates for help.”

FBG2S2: “I didn't find much, I mean many challenges, but sometimes it was a bit hard for me to study alone, but I would find it more engaging to study with others.”

These accounts show how the SLE not only provided structures to support engagement but also encouraged learners to develop their own adaptive strategies. Importantly, confidence-building emerged as both a challenge and a solution, reflecting how engagement is tied to iterative cycles of participation and reassurance.

C. Personalized Learning

C. Personalized Learning	Focus groups	References
Enhanced Understanding through Personalization - How tailored content helped grasp concepts.	5	8
Challenges with Personalization - Negative experiences with personalized content.	2	2
Autonomy in Learning - Experiences of control over the learning process.	5	10

Personalization emerged as a defining strength of the Seamless Learning Environment (SLE). Many participants felt that tailoring content to their individual needs deepened their understanding and gave them a greater sense of ownership over their learning journey. At the same time, the experience also revealed challenges, particularly for those who preferred more structure or struggled with self-regulated approaches.

C.1. Enhanced Understanding and Motivation through Personalization

Participants consistently highlighted how personalized content helped them focus on areas of individual need. This sense of relevance made learning more engaging and fostered motivation: *FBG1S1: "This class is planned for my needs... I feel like this class is just a focus on my needs... it makes it more engaging and motivated me to attend this class because it was based on my needs."*

FBG5S2: "Personal learning helped me focus on what I need most... being able to control my learning pace... gave me a sense of responsibility... made me more motivated to improve."

Flexibility was another important factor. Learners valued being able to manage their time and adjust the pace of study according to their personal schedules and learning styles:

FBG1S2: "It was great that your class was flexible with our needs... essential in this class in my opinion."

FBG2S1: "I much preferred it... being able to do things on my own time... it made it much more manageable and better, especially like it being online also took off the time for commute... it just let me focus on the course."

Some described personalized learning as enjoyable and even relaxing, noting that the experience felt less like a chore and more like a meaningful activity:

FBG2S2: "It was joyful... after the classes I didn't feel exhausted... it was like a hobby... I enjoyed our time there."

For others, self-directed approaches encouraged them to reflect on their strengths and weaknesses and build study habits that felt more relevant and purposeful:

FBG4S1: "It was helpful... I also had problems with that topic... learning English with self-study was more useful for me... I know myself... my weaknesses... I know how to study... I know my motivation."

FBG3S1: "I think it caused me to increase my knowledge, especially in specific vocabulary... in the users in Canada."

FBG5S3: "Personalized parts of the course, like quizzes, were really helpful... I felt like I had more control over my learning because I could choose what to focus on."

C.2. Challenges with Personalization

Not all learners responded positively to a highly personalized and self-regulated format. Several participants expressed a preference for smaller group or one-on-one settings where they could practice more intensively and consistently:

FBG3S2: "I think that it's better for me if I have a private class and or maybe with two or three people because I think I need to have more control for practising and also contributing regularly."

Others pointed out that personalization without sufficient structure could feel overwhelming, and they desired clearer guidance and a well-defined syllabus:

FBG3S2: "I think I should have one class that is that has a root, a root that is clear for me with clear syllabuses and so on."

Some found adapting to self-regulated learning difficult, as the lack of external structure demanded more discipline than they were comfortable with:

FBG2S1: "I can't like exactly compare it to an in-person setting... I don't have anything close resembling this kind of course... it just made it much more manageable and better, especially like it being online also took off the time for commute and everything. I let me just focus on the course, I guess."

C.3. Autonomy and Self-Regulation

Despite these challenges, many participants described autonomy as empowering. Having control over topics, pace, and activities gave them a sense of responsibility and increased their motivation:

FBG1S1: "This class was more fun and more engaging... you think that you are part of this class. You are important, your needs are important... the class was matched with your needs and yeah it was great. So I guess it was the beginning of being self-regulated."

FBG4S2: "It was good to choose what... what I need... we focused on our weakness... gaming and playing games... it was really helpful... just focus on what I need, what we need."

Others linked autonomy to flexibility and practical benefits, particularly the ability to skip content they already knew or adapt lessons around their lives:

FBG2S1: "It just made it much more manageable and better, especially like it being online also took off the time for commute... let me just focus on the course."

FBG5S4: "Studying on my own speed... gave me a sense of control over the learning journey."

FBG5S1: "Here, it was just much easier... I could skip things that I already knew... it was much easier than like, having an application whose interface you've got a battle with."

However, some participants reiterated the need for a balance between autonomy and structure. While personalization was empowering, clearer guidance would have made them feel more secure about their progress:

FBG3S2: "I think that it's better for me if I have a private class... I think I need to have more control for practising and also contributing regularly... I should have one class that has a root, a root that is clear for me with clear syllabuses."

Finally, autonomy also created space for deeper exploration of personal interests, leading to more meaningful learning:

FBG3S1: "I had classes free discussion about the culture... I investigated in more detail... I learned some new things about the culture... I think it's very good."

D. Collaboration and Peer Interaction

D. Collaboration and Peer Interaction	Focus groups	References
Positive Peer Interactions - Instances where collaboration enhanced learning.	4	7

Challenges in Peer Collaboration - Difficulties in working with peers	4	7
Impact of Collaboration on Learning - Outcomes of social learning experiences.	5	10

Collaboration emerged as a defining feature of the Seamless Learning Environment (SLE), shaping both language development and social engagement. Participants described how peer interaction created opportunities for practice, motivation, and critical thinking, while also revealing challenges related to time, skill differences, and group dynamics.

D.1. Positive Peer Interactions and Learning Gains

Many learners emphasized the value of working collaboratively. Group activities, discussions, and shared projects provided both linguistic practice and social connection:

FBG1S1: "...we really think uh and feel we are friends...we send I wish every time and others um, uh messages and um ask them questions. Even you know, we we think we are friends and that's because of the friendly atmosphere of the class."

FBG5S1: "...became a great friends and we like talking English constantly. So that's like just practice passively on its own."

Collaboration allowed participants to exchange ideas and perspectives, deepening understanding of both language and cultural concepts:

FBG2S2: "...it was very impactful for me because at the same time I had to think about how can I ask the question and what should I ask and what's going on about others answer...it was a new experience about team working..."

FBG3S1: "...if we had the discussion with other people, we learn new thing about any title...I learned some of the new aspect of the language skill about that."

Confidence was another recurring theme. Participants described peer interactions as non-judgmental and supportive, which reduced anxiety and encouraged them to take risks in speaking:

FBG4S2: "Our peers are really nice people. They I believe they don't judge other and this help people to talk talk more...I accept to make mistakes, but speak and talk."

FBG5S4: "...when I saw people challenging with something, for example, a grammar, and I knew about it and I could communicate it with them, it made me learn it much better."

Peer feedback was particularly valued, as it helped participants clarify concepts and refine their skills:

FBG5S2: "When I worked on group projects with peers, we could share ideas and help each other understand difficult concepts. For example, in a group discussion, someone might explain a concept in a way that made it easier for me to understand."

FBG5S4: "...working with others...helped me learn better, especially when I helped them with grammar. It was a silver lining."

D.2. Challenges in Peer Collaboration

Despite these benefits, collaboration also presented difficulties. Scheduling conflicts and time constraints often made it hard for groups to work consistently together:

FBG1S1: "...the challenge was UM having and not having enough time to spend on it a group discussions and things. So the challenge is about time..."

FBG5S1: "...sometimes we couldn't be online at the same time...it was hard to just keep all of us online at the same time."

Differences in proficiency levels sometimes disrupted group dynamics, leaving some participants feeling mismatched:

FBG2S1: "...the challenge was that we were kind of on different levels of learning...I was having more knowledge in English than probably my peers."

Others pointed to negative attitudes or low participation from some peers, which could undermine the group environment:

FBG3S2: "...somebody in...our class...had a bad feeling and also negative feeling about everything life and everything is bad here...that was my important challenge that I had about my peers."

FBG2S1: "...I wasn't exactly in the same level as my peers...it was a fun little thing...but the challenge was that we were kind of on different levels of learning."

Information overload was another concern. The volume of messages at times became overwhelming:

FBG5S2: "...the lots of messages that we got sometimes was overwhelming..."

D.3. Outcomes of Peer Collaboration

Even with these challenges, participants generally viewed collaboration as a powerful component of their learning. Peer interaction enriched their understanding and made lessons more engaging:

FBG1S1: "...we could share our score with others and let the others continue because we answered a question, right. And so it makes a good atmosphere between a positive atmosphere between the class...we feel we are friends."

Collaboration also inspired motivation and critical thinking. Seeing others work hard encouraged participants to persist, while activities such as problem-solving games created authentic opportunities for language use:

FBG3S2: "...it's good because they can motivate you...when I see other people are trying for their language, it's real for me to see that."

FBG2S2: "...we had to use our words to understand...we had to think about how can I ask the question and what should I ask and what's going on about others answer...it was very impactful for me."

Finally, participants underscored the sense of belonging fostered through peer relationships, which extended beyond the classroom:

FBG1S1: "...we really think and feel we are friends...we have all connections outside the class...we send I wish every time and others messages..."

E. Knowledge Sharing and Social Cognition

E. Knowledge Sharing and Social Cognition	Focus groups	References
Effective Knowledge Sharing - Successful examples of giving or receiving knowledge.	4	9
Barriers to Knowledge Sharing - Factors that impeded knowledge exchange	0	0
Impact of Social Cognition - How socially distributed cognition influenced learning outcomes.	5	12

SLEs draw on the principle of socially distributed cognition, where learning happens not only individually but also through the collective sharing of knowledge, perspectives, and resources. Participant reflections highlight both how effective peer-to-peer knowledge sharing supported language development and how socially distributed cognition influenced their overall learning outcomes.

E.1. Effective Knowledge Sharing

Participants consistently emphasized that one of the greatest benefits of the SLE was the ease of sharing resources and ideas with peers. The immediacy of access to information was described as a motivating factor, removing barriers and allowing learning to unfold naturally.

FBG2S1: “Yeah, well, we had more access and like instant access to what we wanted. So in that way it was a lot easier and like more facilitated towards being like more accessible. So I guess, you know, that way it was just like a click away, a message away. So it wasn't that much of a burden or having to, like, get in contact with someone, 'cause we're all there and we could just like at the spur of the moment, just like, ask something or like compare notes or whatever.”

Knowledge sharing also reinforced vocabulary and grammar. Participants described how hearing their peers use phrasal verbs, idioms, or sentence structures reminded them of knowledge they already had but had forgotten, encouraging them to reuse and integrate this language in their own speaking.

FBG4S1: “Oh, oh yeah, that happened. I mean they used some new words and some new phrasal verbs or idioms maybe that I think to myself, yeah, I knew that. I just forget that and now she used it, so it just came up again and I can use that in the future. That happens a lot.”

This type of exchange extended beyond vocabulary. Learners noted that they could observe how others constructed sentences, compare phrasing, and adopt more concise or natural ways of expressing themselves in English.

FBG4S2: “And same as S1, when you talk about stuff... I listen to you to how to make it sentences and it helps me when I want to use it in other places. How to make sentences you know? Then I want to translate (mother language) to English. It's the sentences will be so long, but you make a short sentence with same meaning... so I use your sentence instead of my sentence.”

The informal and casual atmosphere of the SLE further supported knowledge exchange. Learners often described it as feeling more like talking with friends than attending a formal class. This sense of comfort reduced stress and made them more willing to share ideas and personal experiences, which in turn expanded opportunities for meaningful learning.

FBG2S2: "It was a very friendly, friendly area that we could share and think about our daily experiences there. And at the same time, we were focused on what we write, what we say there... It was very comfortable there... It didn't give me the sense I'm already speaking English in a formal class. It was good and yeah, I didn't feel like I have to be, for example, formal. I could be very casual and think about my casual things in my daily life."

Finally, the sharing of internet resources and content on the platform was identified as another important dimension of knowledge exchange. Participants valued the spontaneity of peers sending articles, videos, or posts they found interesting, creating a rich pool of materials that extended learning beyond the class content.

FBG5S1: "People sending content that they found from the Internet, just sending stuff again, because this is like a messenger app. So people just send stuff that they found interesting. And there was a wealth of content. Everyone was just sourcing whatever they found from their own corner of the Internet. So that was really good and organic."

E.2. Impact of Social Cognition

Participants reflected on how socially distributed cognition shaped their learning outcomes. One of the most consistent observations was how peer interactions helped them recall, practice, and apply language in real-world ways. Exposure to different sentence structures and vocabulary through discussion made language learning more memorable and practical.

FBG5S3: “So talking with other students and sharing things we learned was really helpful. And it made me feel like we were all learning together, even if we were far apart. And actually, as we were chatting all in English would make my speaking better and even writing better. And yeah, that's the thing that I like the most.”

Participants also emphasized that learning through socially distributed cognition was not limited to grammar or vocabulary. It included gaining new perspectives, solving problems collaboratively, and engaging in discussions that mirrored authentic communication in Canadian society. These moments deepened their understanding and reinforced confidence in applying English outside the classroom.

FBG5S2: “For me in the online environment, sharing knowledge with peers was helpful. We exchanged insights and tips and enhanced our understanding together, and socially distributed cognition improved my ability to learn by providing diverse perspectives and collaborative problem solving.”

By integrating personal experiences and everyday life into discussions, participants made stronger connections between their own realities and the course material. This blending of lived experience with language learning reflects how distributed cognition works: knowledge is created, shared, and refined collectively, allowing participants to learn both language and cultural practices at the same time.

FBG5S4: “About the knowledge sharing in the online environment, for me, the everyday sense of it was the most interesting part. The fact that we could talk about our everyday life with whatever we've learned was so interesting. The fact that we could learn from each other and we could help each other and send interesting stuff in the group chat was something that I really like.”

F. Feedback and Support

F. Feedback and Support	Focus groups	References
Effective Feedback Mechanisms - Features of feedback that supported learning.	5	10
Gaps in Support - Suggestions for additional support or feedback mechanisms.	1	2
Support Structures - Resources that enhanced the learning experience	4	6

Feedback and support were central to participants' experiences of the SLE. Learners described how timely, constructive, and emotionally supportive feedback enhanced their confidence and motivation. At the same time, they identified areas where additional support could strengthen their learning, as well as structures that contributed positively to their experience.

F.1. Effective Feedback Mechanisms

One of the strongest features noted was the accessibility and responsiveness of feedback. Participants consistently emphasized how quickly questions were answered, sometimes within minutes, which gave them reassurance and a sense of security in their learning process.

FBG1S2: "...if anyone or me ask you a question in the telegram. After a few minutes, uh, you answered and it was wonder how do you that 24/7 as promised..."

FBG4S1: "...you were always online and you answered with like 5 minutes delay which was perfect... compared to processors and it took a week to answer... you try to use simpler words and simpler language to make sure that we understand..."

FBG5S4: "...we had it like 24/7 and whenever I thought of something... I knew I had someone to ask it or a group to ask it."

Equally important was the quality of feedback itself. Learners valued comments that were personalized and constructive, helping them recognize their specific weaknesses in grammar, pronunciation, or communication. Clear explanations, synonyms, and examples made feedback easier to apply in practice.

FBG5S3: "...when I speak, I cannot recognize my problems... there were some feedbacks, I could just know that, oh, I'm just making this grammar problems or... pronunciation problems or mistakes, and it would really help me improve..."

Participants also highlighted the motivational and emotional dimension of feedback. The instructor's non-judgmental and positive approach reduced anxiety and encouraged open participation. Humor and engaging resources further contributed to this supportive atmosphere.

FBG4S2: "...you helps people to talk and... I didn't feel that you judge or correct people even in your... face... you give us a positive sign... it helps me even now to talk without any hesitation fears..."

FBG5S4: "...the time you showed us the video from that with that Scottish accent... it was so funny... it made us think about how good we are in our listenings..."

Finally, learners appreciated being asked for input on future lessons, which gave them a sense of agency and ownership over their learning journey.

FBG3S2: "...at the end of the class you asked us what do you like to have for next session and also what you need... it was really effective for us..."

In summation, these reflections illustrate that effective feedback in the SLE was not only about correcting errors but also about fostering motivation, building confidence, and empowering learners through personalized guidance.

F.2. Gaps in Support

Despite the strengths of the feedback system, participants identified areas where additional support would have enhanced their experience. One recurring concern was uneven participation from peers, particularly during interactive activities like games or group tasks. Learners felt this limited the potential of collaborative learning.

FBG2S1: "...students need to also follow through and I guess some people were a bit lacking in that department... they weren't engaging in the games and stuff which made it not as interesting as it could have been."

Another suggestion was to extend the duration of classes. Many felt that one hour of live online meeting per week was insufficient to cover grammar, vocabulary, and conversation practice in meaningful depth.

FBG2S2: "...maybe it would be better to, you know, increase time of the class. It was just one hour. So my reason is that in those in those times we can learn much more. For example, more grammars, more vocab and more have have more conversations..."

In addition, some participants reflected on the balance of accountability, noting that while instructor support was strong, learners themselves needed clearer structures to stay consistently engaged.

FBG2S1: "...it's not something that falls on you, but it's just like in general I guess that was something that if could be addressed even that would... make it that much more better."

These suggestions point to the importance of not only maintaining high-quality feedback but also ensuring structures are in place to promote active participation and accountability among all learners.

F.3. Support Structures

Beyond feedback, participants identified several support structures that enhanced their learning. Instant accessibility to the instructor through Telegram was consistently praised, as it gave learners confidence that help was always available.

FBG1S2: "...if anyone or me ask you a question in the telegram. After a few minutes, uh, you answered and it was wonder how do you that 24/7 as promised."

The instructor's positive and inclusive approach also contributed significantly to learners' sense of safety and confidence, reducing fears of judgment and encouraging participation.

FBG4S2: "...you help people to talk and I didn't feel that you judge or correct people...you give us a positive sign, and it helps me even now to talk without any hesitation or fears."

Practical and engaging learning materials, such as videos featuring diverse accents, added value by connecting lessons to real-world contexts and making them more enjoyable.

FBG5S4: "...the time you showed us the video from that with that Scottish accent, it was so funny to me. And it made us think about how good we are in our listenings."

Additionally, participants recognized the digital platform itself as an important support structure. Features such as topic-specific threads helped organize discussions and made collaboration more efficient.

FBG5S1: "...the good things that we have are because the application has it. For example, this application has recently added this topics feature, which lets every group have different topics."

These reflections on the analysis of data highlight how effective feedback, emotional support, and reliable structures created a learning environment where learners felt both supported and empowered.

G. Accessibility and Inclusivity

G. Accessibility and Inclusivity	Focus groups	References
Accessible Design Features - Design elements that made the course accessible	5	8
Gaps in Inclusivity - Areas needing improvement to support diverse learners.	4	7
Inclusive Design Features - Elements that supported inclusivity.	3	6

One of the main objectives of the SLE was to provide equitable access to learning while creating an environment that welcomed diverse learners. Participants emphasized how flexible, responsive, and inclusive features enhanced their experiences, while also identifying areas where improvements could strengthen inclusivity.

G.1. Accessible Design Features

Flexibility was one of the most frequently mentioned strengths of the course. Learners described how the online format allowed them to avoid commuting and fit learning into their daily routines, often engaging during commutes or short breaks.

FBG1S1: “being part of an online course it’s easier because we don’t need to spend one hour before and one hour after class to commute. We could check the group and answer questions or read the other comments from the group anytime... this platform really had a good impact on our learning.”

The immediacy of support was another defining feature. Participants valued that the instructor was consistently available, providing feedback and guidance without delay. This constant accessibility fostered a sense of reliability and encouraged learners to engage without hesitation.

FBG2S1: “the icing on the top... like anyone at any time if they had any questions they wouldn’t feel intimidated and they would just ask and get in contact with other people in the class”.

The integration of personalized and practical content further reinforced accessibility. For example, lessons focused on job interviews or real-life communication were highlighted as directly relevant. Learners also noted that the inclusion of multiple skills (grammar, writing, speaking, and listening) and games, ensured a holistic and engaging experience.

FBG3S2: “I think it was good because it could cover many kinds of skills in learning English and because we had many games and and some of them were about executing some of them about, for example, writing. And it could cover all, all of the skills”.

FBG2S2: “one of our sessions was about the job interview and it was very useful and important for me and others”.

Technology choices also shaped accessibility. Telegram was described as intuitive, familiar, and easy to use, which reduced barriers for learners who may have struggled with more complex platforms.

FBG4S1: “about accessibility... Telegram was very easy to use, and you were always online to answer questions. I’m really a big fan of Telegram”.

Lastly, participants praised the inclusive feel of personalized learning. The opportunity to connect course content with their own backgrounds created a sense of belonging:

FBG5S4: “it was so personalized. It made it so inclusive and accessible for all of us. And the fact that we could do it on our own time, based on our schedule, made it much better”.

G.2. Gaps in Inclusivity

Despite these successes, participants also identified areas where inclusivity could be improved. A recurring concern was uneven participation in group discussions. Learners observed

that when questions were posed broadly, few responded, but calling on specific individuals encouraged more balanced engagement.

FBG1S1: “when we just post something and say, guys, what’s your opinion? No one answers. But if we ask, for example, [Student A], what’s your opinion? They feel like they should answer... even if it’s not perfect, it helps us practice speaking”.

FBG1S2: “if I was not asked directly, I never answered. But when my name was called, I felt I had to, and it helped me explain myself and practice”.

Learners also expressed a desire for greater cultural representation. While Canadian and North American perspectives were often included, several participants wanted exposure to other regions.

FBG3S1: “I think it’s better to have another person, a native person, to share their culture with us... not just North American, but also European or other perspectives”.

Others echoed that including more diverse voices would make the content richer and more engaging.

FBG3S2: “if we could talk with someone who are native and for example, has special culture, I think it was good there.”

Another theme was the balance of class activities. Some participants proposed clearer structures that allocated time specifically for grammar, discussion, speaking, and games. For instance, one participant recommended sessions divided into 20-minute segments, noting that this approach would allow for deeper focus on key skills while maintaining variety.

FBG3S1: “...We we could have a writing subject for 20 minutes or we had, for example, two parts writing and a specific and a speaking. And also, I think better to have the native person to share about their culture to us.”

Preferences for in-person interaction also surfaced as an important consideration. Some participants felt that face-to-face classes better supported the development of confidence, non-verbal communication, and real-world skills.

FBG4S2: "I prefer to interact in person, face to face. It helps me deal with social anxiety and improve my body language... not just English knowledge but also how to present myself in English".

G.3. Inclusive Design Features

Even with these gaps, participants consistently emphasized the course's inclusive strengths. Chief among them was the combination of online accessibility with constant support.

FBG2S1: "anyone at any time could ask questions and get help. The customized practices and instructions you gave helped with a better learning experience for everyone".

Flexibility and personalization also stood out. Learners valued that the course could be adapted to their schedules and goals, making it accessible regardless of responsibilities.

FBG5S2: "the instructional design made learning accessible by offering flexible schedules and interactive lessons suitable for diverse learners".

The use of multiple learning modalities was another inclusive feature. Games, discussions, and multimedia tools such as captions and transcriptions ensured that learners with different needs and preferences could engage effectively.

FBG5S3: "the course tried to include everyone... there were things like captions and videos or transcriptions for recordings, which I found helpful".

Finally, cultural and contextual relevance was central to inclusivity. Learners appreciated practical topics applicable in real life situations, such as job interviews, immigration, enrolling

children in schools, and mental health care, highlighting how drawing on their own backgrounds enriched the experience.

FBG5S4: “Each part of our learning experience came from our own background... it was so personalized, it made it inclusive for all of us”.

H. Equitable Learning Opportunities

H. Equitable Learning Opportunities	Focus groups	References
Equitable Design Practices - Examples where design supported equal access to resources and participation.	4	10
Instances of Inequity - Situations where inequities arose.	0	0
Suggestions for Equitable Design - Participant suggestions for improving equity in learning.	2	2

Effective feedback and support systems are essential to the functioning of SLEs. This section explores how design features supported equitable access, participation, and opportunities for adult learners, as well as areas for further improvement.

H.1. Equitable Design Practices

Participants consistently highlighted that the course was designed with equity in mind, offering multiple entry points for participation. The accessibility of the platform and the additional materials provided to learners who needed extra support created a level playing field. Flexibility in pacing and personalized learning options further strengthened this sense of fairness, enabling learners to work at their own speed while receiving targeted assistance when necessary.

Equitable participation was also encouraged through deliberate facilitation strategies. Learners noted that instructors actively created space for quieter participants and ensured that

discussions were structured so that everyone had the opportunity to speak. Many also described the course as democratic in nature, with equal access to resources and opportunities to contribute. Importantly, several participants stated that they never experienced inequity in the course, underscoring the effectiveness of these inclusive design practices.

FBG2S1: "The entry point for the class was kind of super low... you did try to help everyone and people who had less knowledge. You also tried to give them material outside of the class... to basically be on par with the rest of the class."

FBG5S2: "The instructional design ensured equitable learning opportunities by offering flexible pacing and personalized exercises for all participants."

FBG5S4: "We all had the same platform and... personalized learning scheme, and we could take it at our pace. So everything, I think, was equitable."

FBG2S2: "Sometimes in our classes it was one or two people that they speak less than others... I think it's better to pay attention more to those situations and those people."

FBG4S2: "You ask people who were quiet to talk, and I think [it was] equitable for everyone."

FBG3S1: "As long as we had, for example, five students in pre-discussion classes... everyone can turn on the mic and speak of the title."

FBG3S2: "Everybody could contribute in every discussion... all of us had this chance to speak and also think and also do everything."

FBG5S1: "It's pretty democratic. Everyone has equal access... Everyone is doing this on their own time. I can't think of any problems with the issue of equity."

FBG4S1: "I didn't feel inequitable, like, at all. And yeah, it was totally equitable."

FBG5S3: "The course tried to make sure that everyone had a chance to learn... I think everyone could use it easily."

H.2. Instances of Inequity

No explicit instances of inequity were identified by participants. Most learners expressed that the environment felt fair and inclusive, with equitable opportunities for participation and access to resources.

H.3. Suggestions for Equitable Design

While participants reported overall satisfaction with the course's equitable design, they offered constructive suggestions for further enhancement. Some recommended more targeted attention to specific skill development, particularly pronunciation, as certain areas of language learning felt underrepresented. Others highlighted occasional technical or language barriers, suggesting that additional support in these areas would help ensure more consistent equity across participants' experiences.

FBG1S2: "I'd like to, uh, to practice more about pronunciation. And I mentioned that... but I think we didn't do [it] in this course enough."

FBG5S1: "There were moments where technical issues or language barriers created inequitable experiences in my opinion, and additional support could address our challenges."

6.3. Phase 2: Discussion

This section presents some additional insights of the key findings in phase 2, framed within the theoretical perspectives of socially distributed cognition and Universal Design for Learning (UDL). The Seamless Learning Environment (SLE) demonstrated its effectiveness in supporting ESL learners in their goals of fluency, comprehension, cultural integration, and confidence through interactive, multimodal, and inclusive instructional strategies. The subsequent segments explore best or 'most appropriate' instructional design practices for a seamless learning environment,

examines effective methods for language learning as identified by participants, and highlights areas for further research.

6.3.1. General Learning Experience: Strengths, Challenges, and Features

The analysis of participants' experiences reveals a nuanced picture of what supported and, at times, constrained their learning. Central to the positive accounts was the integration of culturally relevant content, which positioned language not as an abstract system but as a lived practice tied to real-world communication. As Byram (1997) and Kramsch (2013) argue, when language instruction engages with culture, learners are more likely to perceive it as a pathway to social participation rather than a purely academic exercise. This cultural framing, paired with the flexibility of self-paced learning, gave learners the opportunity to connect lessons to their everyday realities while managing complex schedules. An outcome that has long been associated with the development of autonomous learning behaviors (Benson, 2011).

Interactive elements such as games and discussion-based activities further energized participation, echoing Gee's (2003) and Deterding et al.'s (2011) observations that game-based approaches can make language acquisition both more enjoyable and contextually meaningful. Equally important was the atmosphere of psychological safety. Many participants noted that the absence of judgment made them more willing to take risks, which resonates with Krashen's (1982) theory of the "affective filter" and MacIntyre and Gregersen's (2012) findings on the role of low-anxiety environments in promoting effective communication and fluency.

Yet these strengths were accompanied by notable challenges. Several learners pointed to the lack of focused skill-based instruction, particularly in writing and speaking, as a limitation. This critique highlights the tension between offering broad, culturally and socially rich experiences and meeting individual demands for targeted linguistic development. Hyland (2013) and Nation

(2009) remind us that structured attention to discrete skills remains a cornerstone of confidence-building in language learning. Another difficulty stemmed from the heterogeneous composition of the group. While the diversity of cultural backgrounds enriched peer exchange, it also created uneven expectations and goals, a dilemma well documented in research on multilevel classrooms (Tomlinson, 2014; Littlewood, 1999).

Despite these constraints, learners often described moments of personalization and goal-oriented activity as especially meaningful. Exam preparation tasks and real-life communication exercises were not only practical but also motivational, reflecting Dörnyei's (2001) and Ushioda's (2009) insights into the importance of goal setting for persistence. These features helped sustain engagement even when participants felt the broader themes of the course were less tailored to their immediate individual needs.

Overall, the course experience illustrates the potential of culturally grounded, flexible, and interactive design to foster engagement and confidence. At the same time, it raises critical questions about equity and access, such as how can future iterations maintain this sense of inclusivity while also addressing calls for more targeted support? And how might instructors better navigate the complexities of teaching in culturally and linguistically diverse cohorts, where expectations and proficiencies are far from uniform? Addressing these questions will be essential for ensuring that such environments not only motivate learners but also meet their varied and specific developmental needs.

6.3.2. Motivation, Barriers, and Strategies for Engagement

Participants' experiences revealed a dynamic interplay between what motivated them, the barriers that limited participation, and the strategies they employed to sustain engagement.

Confidence, persistence, and overall progress were shaped as much by the course design as by learners' ability to navigate challenges in their daily lives.

A recurring theme was the power of a welcoming and inclusive atmosphere. Many learners described the learning space as supportive and judgment-free, which made it easier to take risks and participate in discussions. Research consistently shows that positive classroom dynamics reduce anxiety and increase willingness to communicate, particularly in language-learning contexts where confidence is closely tied to progress (Dewaele & MacIntyre, 2014; Gregersen & MacIntyre, 2013). The opportunities for open-ended dialogue and structured communicative tasks mirrored what studies on dialogic learning suggest: that interaction enhances not only proficiency but also critical thinking (Swain, 2006; Mercer, 2011). This was further reinforced by the integration of interactive activities such as games and real-world application exercises, which sustained interest and provided low-stakes opportunities for experimentation. Task-based and game-enhanced approaches are well established in the literature as strategies that make learning both engaging and contextually relevant (Gee, 2003; Sykes & Reinhardt, 2012).

Yet, motivation was never consistent or guaranteed. Time constraints were the most commonly cited barrier, with learners juggling work, family, and settlement responsibilities. These findings echo research showing that adult learners often struggle to prioritize language study amid complex schedules, even when courses are flexible or asynchronous (Godwin-Jones, 2018; Benson, 2011; Ushioda, 2009). While the SLE's design allowed for more autonomy, the larger underlying reality remains unchanged as adult learners' competing obligations inevitably shape their capacity to engage fully.

Challenges also emerged in relation to the online format. For some, the lack of face-to-face interaction made it harder to form strong peer relationships or maintain motivation. Studies have

highlighted that social presence is a crucial ingredient in online language learning, and when it is weak, learners can feel isolated or disengaged (Kruk, 2019; Hampel & Stickler, 2015; Lamy & Hampel, 2007). A related barrier was speaking anxiety. Several participants described initial hesitation to speak openly, worried about errors or negative judgment; an experience strongly reflected in research on foreign language anxiety (Horwitz et al., 1986; MacIntyre & Gregersen, 2012). Such anxiety is known to limit oral participation and reduce willingness to communicate, unless educators actively build confidence and psychological safety (Krashen, 1982).

What is striking, however, is the extent to which learners actively worked around these barriers. Many turned to self-directed strategies such as setting personal goals, practicing independently, and using digital resources to reinforce learning outside class time. The literature underscores the value of autonomy in second language acquisition as learners who self-regulate tend to persist longer and achieve deeper gains (Benson, 2011; Little, 1995). Others leaned on peer collaboration, highlighting how exchanging ideas, providing feedback, and learning through shared activities boosted both confidence and linguistic competence. Such peer-mediated learning reflects sociocultural theories of language development, where interaction drives co-construction of knowledge and exposes learners to diverse communicative styles (Lantolf & Thorne, 2007; Pea, 1993; Swain, 2006).

The instructor's role also emerged as central. Participants valued timely responses, constructive feedback, and emotional support, describing these as key to lowering anxiety and sustaining motivation. Research has long established the significance of teacher immediacy (behaviors that signal responsiveness, encouragement, and presence) in shaping learner engagement and willingness to communicate (Wen & Clément, 2003; Mercer & Dörnyei, 2020). In this case, the combination of structured feedback and a non-judgmental stance created

conditions where learners felt safe enough to experiment and grow (Gregersen & MacIntyre, 2013).

Ultimately, the findings show that motivation, barriers, and strategies for engagement cannot be separated because they are intertwined elements of the learning process. While structural constraints such as time, online disconnection, and anxiety initially limited participation, learners' resilience, combined with strong peer and instructor support, created pathways towards re-engagement. This adaptive process underscores not only the importance of autonomy and social interaction but also the broader reality that sustaining motivation in adult ESL learning requires ongoing negotiation between learners' goals, their circumstances, and the resources provided.

These findings also serve as a reminder that individual resilience, while commendable, cannot be the sole solution to systemic barriers in language education. Participants demonstrated remarkable resourcefulness in adapting to constraints, but their experiences highlight the importance of designing learning environments that do not rely exclusively on learner perseverance. Addressing issues such as limited time, uneven access to technology, personal journeys, and the pressures of settlement and employment requires structural support beyond the classroom. From a critical perspective, creating equitable and sustainable pathways for adult ESL learners means recognizing both the agency they bring and the institutional responsibilities that must accompany it.

6.3.3. Personalization, Challenges, and Autonomy in Learning

Participants' reflections on personalization, its challenges, and the role of autonomy reveal both the promise and the complexity of self-regulated learning in an SLE. Many found that tailoring content to their individual needs, interests, and goals made learning more relevant and engaging. This aligns with research showing that learner-centered approaches, which emphasize

personal relevance, foster deeper engagement and intrinsic motivation (Deci & Ryan, 2000; Dörnyei, 2001). Personalized tasks also allowed learners to connect study with real-life applications, reinforcing autonomy as a critical driver of language acquisition (Little, 1995).

At the same time, personalization posed difficulties for some learners. The self-regulated structure of the course, while empowering for many, proved overwhelming for those less confident in managing their own learning. Research cautions that too much flexibility without scaffolding can lead to decision fatigue, uncertainty, and even disengagement (Benson, 2011; Ushioda, 2009). Participants who struggled with time management, prioritization, or motivation often described feeling unsure of their progress, echoing broader findings that self-paced environments require clear guidance to prevent disorientation (Azevedo & Hadwin, 2005; Barnard-Brak et al., 2010).

Still, when autonomy was balanced with appropriate support, learners described feeling more motivated, confident, and in control of their progress. Studies suggest that this balance is essential: effective self-regulated learning combines flexibility with structured scaffolding, ensuring that learners are both empowered and supported (Zimmerman, 2002). Goal-setting, regular check-ins, and guided feedback have been shown to sustain engagement and build self-efficacy, particularly in online or flexible learning contexts (Schunk & Zimmerman, 2008).

These findings highlight the importance of designing personalization not as unbounded freedom, but as guided choice. Empowering learners to take control of their learning fosters motivation and ownership, yet excessive autonomy without direction risks undermining those benefits. For adult ESL learners, whose schedules and confidence levels vary widely, striking this balance ensures that personalization enhances engagement while still providing the structure needed for sustained progress.

The tensions participants described also point to broader systemic dynamics in ESL education. While personalization promises equity by adapting to individual needs, it may inadvertently reproduce inequities if learners are left without sufficient support. Those with stronger digital skills or greater confidence are more likely to thrive, while others risk disengagement. This suggests that personalization in SLEs must be carefully designed with equity in mind, ensuring that autonomy does not become another barrier for learners navigating already complex educational and social contexts.

6.3.4. Peer Collaboration: Benefits, Challenges, and Learning Outcomes

The analysis of peer collaboration experiences highlights the complex yet impactful role of social learning in shaping participants' educational outcomes. While challenges such as time limitations, uneven participation, and differences in language proficiency sometimes posed difficulties, collaboration emerged as a key driver of engagement, motivation, and learning effectiveness. These findings are comtable with research showing that collaborative learning provides authentic communication opportunities, increases interaction, and fosters social support (Swain, 2006; Lantolf & Thorne, 2007).

Peer work was particularly valued for its ability to create a sense of community and mutual support. Participants emphasized the importance of group activities, such as games, joint problem-solving tasks, and informal discussions (affectionately nicknamed coffee chats), in creating a welcoming environment. Socially supportive learning communities have been shown to reduce anxiety and sustain motivation, particularly in peer-driven contexts (Dewaele & MacIntyre, 2014; Mercer & Dörnyei, 2020). This sense of belonging encouraged active participation while also boosting confidence in using the target language, reinforcing findings that social interaction increases willingness to communicate in second language acquisition (MacIntyre et al., 1998).

At the same time, the effectiveness of collaboration was not uniform. Unequal participation sometimes emerged as a barrier, with some learners dominating discussions while others remained hesitant, a common issue in heterogeneous groups (Littlewood, 1999). Differences in proficiency also shaped group dynamics, with advanced learners occasionally taking on leadership roles while less proficient learners contributed less (Storch, 2002). Time constraints added further challenges, particularly for participants balancing work, family, immigrations, and study responsibilities. Research suggests that for collaborative learning to reach its full potential, support mechanisms such as clear role assignments, scaffolding, and structured synchronous sessions are needed to promote balanced participation (Van den Bossche et al., 2006).

Despite these challenges, the benefits of peer collaboration were consistently evident. Participants described how group discussions and shared tasks enabled them to negotiate meaning, clarify misunderstandings, and practice language in real time. These processes are repetitively identified as central to language development (Long, 1996; Swain, 2006). Collaborative activities also provided opportunities for peer feedback, helping learners refine both written and spoken expression, while exposing them to diverse perspectives. These experiences reiterate research on peer-assisted learning, which highlights how co-construction of knowledge enhances both linguistic competence and reflective thinking (Vygotsky, 1978; Ellis, 2003; Lantolf & Thorne, 2007).

Together, these findings underscore that while collaboration presents challenges, its benefits far outweigh its drawbacks. Collaborative learning not only enhances engagement but also fosters supportive communities and contributes to deeper linguistic and cognitive growth. Broader research on socially distributed cognition reinforces this point: interaction, scaffolding, and shared meaning-making are fundamental to language acquisition (Pea, 1993; Salomon, 1993).

The dynamics of peer collaboration also raise broader questions about equity and power in group-based learning. While collaboration was generally experienced as supportive, the persistence of unequal participation suggests that not all learners felt equally empowered to contribute. This reflects a wider issue in ESL education: learners who are less confident or less linguistically proficient risk being sidelined, even in well-intentioned collaborative settings. Designing activities that deliberately distribute opportunities, through structured turn-taking, targeted scaffolding, or differentiated roles, can help ensure that peer collaboration does not simply replicate existing disparities but actively works to redress them.

6.3.5. Socially Distributed Cognition in Online Learning

The interplay between peer collaboration and socially distributed cognition within online environments shaped participants' engagement, motivation, and language development in significant ways. While challenges such as time constraints, uneven participation, and varied language proficiency occasionally created barriers, the availability of distributed cognitive resources and the opportunities for social learning facilitated meaningful knowledge exchange and reinforced language growth. These findings resonate with research showing that collaborative learning fosters deeper cognitive engagement, increases motivation, and enhances communicative competence through peer-supported interaction (Lantolf & Thorne, 2007; Pea, 1993).

One of the recurring challenges was the logistical difficulty of coordinating peer collaboration in an online format. Scheduling conflicts and limited time often disrupted synchronous participation, echoing research that notes asynchronous environments, though flexible, may dilute immediacy and limit sustained interaction (Hrastinski, 2008; Garrison, 2016). Differences in proficiency also shaped participation, as confident speakers tended to dominate while less experienced learners hesitated to contribute. Studies have long emphasized that such

imbalances can intensify anxiety and discourage participation, particularly in second language contexts where confidence is central to communication (Horwitz et al., 1986; MacIntyre & Gregersen, 2012).

Despite these difficulties, socially distributed cognition played a pivotal role in mitigating barriers and supporting engagement. Learners valued the immediacy of shared resources, collaborative problem-solving, and the ability to co-construct meaning with peers. These practices reflect research on distributed cognition, which conceptualizes learning as emerging through interactions between individuals, tools, and social contexts (Salomon, 1993; Swain, 2006). The informal, supportive nature of peer interactions also reduced the pressure of formal performance, encouraging learners to take risks and practice language more freely. This echoes findings that socially mediated learning environments build both confidence and fluency by lowering affective barriers (Krashen, 1982; Dewaele & MacIntyre, 2014).

Another key benefit of collaborative knowledge sharing was its role in reinforcing retention and application. Group activities, such as problem-solving tasks and joint discussions, not only improved comprehension of vocabulary and grammar but also encouraged learners to apply language dynamically in context. Research suggests that such interactive approaches promote deeper processing and long-term retention by requiring negotiation of meaning and critical engagement (Ellis, 2003; Storch, 2002). These activities also fostered adaptive problem-solving and critical thinking, showing that socially distributed cognition supports both linguistic and cognitive development.

Consequently, these findings emphasize the need for balance between autonomy and structured collaboration in online learning design. While flexible pacing and personalized goals support self-regulation, structured opportunities can address issues of uneven participation and

ensure inclusivity (Little, 1995; Van den Bossche et al., 2006). Designing environments that deliberately integrate peer-driven knowledge sharing, instructor-supported collaboration, and multimodal interaction offers a way to optimize the benefits of distributed cognition while minimizing participation challenges.

Although collaboration often worked to democratize learning, the recurring issue of unequal participation points to subtle power dynamics in online group settings. Learners with stronger skills or greater confidence often had disproportionate influence, while others remained on the margins. This raises a broader systemic question: how can online ESL platforms ensure that distributed cognition does not become distributed unevenly? Structuring collaboration to give quieter or less proficient learners defined roles, offering scaffolded entry points, and providing institutional support for digital access are critical for ensuring that these environments do not inadvertently reproduce inequities. In this sense, socially distributed cognition is not only a pedagogical tool but also a test of how equitably learning opportunities are designed and facilitated.

6.3.6. Feedback Mechanisms, Gaps in Support, and Support Structures

Feedback and support mechanisms played a decisive role in shaping learner confidence, engagement, and progress. Participants consistently valued feedback that was timely, constructive, and tailored, noting that immediate guidance helped them identify weaknesses and track improvements. Research underscores the impact of such high-quality feedback, which fosters self-regulated learning, deeper reflection, and autonomy (Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006). Digital platforms amplified these benefits, offering continuous access to instructor support and resources, aligning with studies on accessibility and immediacy in online learning (Shute, 2008; Hew & Cheung, 2014).

Still, gaps in support emerged as learners highlighted the need for extended practice opportunities, particularly in grammar, vocabulary, and fluency, reflecting the importance of explicit instruction and guided practice in SLA (DeKeyser, 2007; Ellis, 2003). Another issue was learners' uneven engagement with feedback. While feedback was available, some participants struggled to apply it effectively, underscoring the value of structured reflection activities such as guided peer discussions or self-assessment (Carless, 2015; Boud & Molloy, 2013; Zimmerman & Schunk, 2011).

Robust support structures also enhanced inclusivity and motivation. Learners emphasized the instructor's responsiveness, clarity of explanations, and use of real-life examples, which connected learning to practical contexts. These findings reaffirm research showing that scaffolding, differentiated instruction, and supportive atmospheres reduce anxiety and boost willingness to communicate (Mercer & Dörnyei, 2020; MacIntyre et al., 1998; Dewaele & MacIntyre, 2014). Technology-mediated supports, such as structured discussion threads, were further identified as tools that created continuity and cognitive engagement beyond class sessions (Garrison, 2016; Hew & Cheung, 2014).

Further reflection on this section shows how feedback and support mechanisms enhanced confidence and motivation but also reveals gaps where systemic scaffolding was lacking. Future designs should not only emphasize immediacy and personalization but also build in structured ways for learners to act on feedback, ensuring equitable benefits across different learner profiles.

6.3.7. Accessibility and Inclusivity in Technology-Enhanced Learning

The course successfully reduced logistical barriers through flexible scheduling, online platforms, and personalized pathways, enabling participants to integrate learning into their daily routines. These affordances reflect established findings that digital learning environments can

increase learner autonomy and control over pacing and engagement (Ally, 2008; Anderson, 2011; Benson, 2011). The multimodal design further supported inclusivity by accommodating diverse learning preferences and needs, in alignment with Universal Design for Learning (UDL) principles (Rose & Meyer, 2002; Hew & Cheung, 2014).

Despite these strengths, limitations in inclusivity were also evident. Some learners noted that quieter participants often remained silent without explicit prompts to contribute, a recurring challenge in flexible online environments (Hrastinski, 2008; Richardson et al., 2017). Prior research emphasizes that inclusivity in digitally mediated spaces requires deliberate facilitation strategies, including structured turn-taking, participation scaffolds, and small-group interaction (Garrison, 2016). In addition, while collaboratively sourced content fostered relevance and engagement, its heavy reliance on Canadian and American cultural frames constrained broader representation. Although culturally relevant pedagogy is associated with increased motivation and engagement (Byram, 1997; Kramsch, 2013), an over-representation of dominant cultural narratives risks marginalizing learners' diverse identities. Expanding learner-sourced materials and intentionally encouraging the inclusion of global and culturally specific perspectives would further support intercultural competence and identity investment (Deardorff, 2006; Liddicoat & Scarino, 2013).

Participants also suggested the inclusion of additional hybrid learning opportunities to address perceived gaps in social interaction and professional communication. Research indicates that hybrid formats can combine the flexibility of online access with the social affordances of in-person engagement, contributing to reduced anxiety and improved communicative fluency (Stracke, 2007; Yamagata-Lynch, 2014). These findings suggest that while accessibility was largely achieved, inclusivity requires ongoing, intentional facilitation and cultural diversification.

Balancing flexibility with structured engagement strategies and embedding diverse cultural voices are therefore essential to ensuring that technology-enhanced learning environments are both equitable and transformative.

Emergent Plurilingual Mediation as a Dimension of Inclusivity

Another dimension of inclusivity that emerged implicitly in participant interactions, and warrants deeper analytic reflection, concerns how learners drew on their linguistic and cultural repertoires alongside multimodal semiotic resources to mediate understanding and sustain engagement. It is important to clarify at the outset that the Seamless Learning Environment (SLE) was not explicitly designed around formal plurilingual pedagogies, nor were participants introduced to or expected to articulate awareness of such frameworks. Rather, the SLE was intentionally designed to foster collaborative learning, social interaction, and learner agency, with the expectation that diverse communicative strategies would emerge organically through peer engagement. Accordingly, data collection focused on participants' lived experiences of learning and post-implementation reflections, rather than on their ability to identify or ascribe to pedagogical constructs.

Within this context, forms of plurilingual mediation, consistent with the Council of Europe's conception of plurilingual competence, became visible through participants' instinctive use of home and first languages alongside culturally grounded knowledge to interpret concepts, explain meanings, and support peers during collaborative interaction. Learners frequently related new content to familiar cultural frames and communicative norms, particularly when attempting to bridge understanding across linguistic and cultural differences. These practices positioned

linguistic diversity as a shared resource rather than a deficit, enabling more equitable participation and collective meaning-making within the learning environment.

Concrete instances of these emergent practices are evident across multiple sections of the findings chapters. For example, in participants' reflections on speaking fluency and vocabulary development, several learners explicitly described relying on their first language as a mediating resource when formulating responses in English. As discussed in Section 6.2, participants noted that they often translated internally from their "mother tongue" before producing spoken or written English, using this process as a means of organizing thought and increasing confidence in expression. Rather than framing this behaviour as a strategy in itself, learners described it as an instinctive and supportive process that enabled them to participate more fully in interactions.

Similarly, across sections addressing cultural integration and contextualized language learning (see Section 5.3.3), participants frequently explained how they drew on experiences, concepts, and communicative norms from their home cultures to interpret meaning and make sense of unfamiliar expressions in English. In these instances, learners used culturally grounded explanations to clarify intent, contextualize vocabulary, and support peers who did not share the same cultural background. Such exchanges often unfolded during collaborative activities that required explanation, comparison, or negotiation of meaning, allowing learners to leverage their full linguistic and cultural repertoires in socially situated ways.

Importantly, these plurilingual practices were not isolated or discouraged within the SLE. The collaborative and socially mediated structure of the environment allowed learners to draw on home languages and cultural references as legitimate communicative resources when needed, particularly in peer-to-peer explanation and problem-solving. Although plurilingual pedagogy was

not an explicit design principle, the SLE's emphasis on learner agency and interaction created space for these practices to emerge naturally and to be taken up by others in the group.

Alongside these forms of plurilingual mediation, participants also engaged in pluri- and trans-semiotic meaning-making, mobilizing emojis, memes, sticker-based responses, and other non-verbal or multimodal signs in conjunction with English to coordinate participation, express stance, and sustain social presence. As previously noted, during collaborative activities such as the *Dungeons Quest* task, memes and sticker emojis played a central role in communicating affect, signaling shared understanding, and reinforcing group cohesion. These semiotic resources complemented linguistic interaction rather than replacing it, functioning as additional layers of meaning-making within the shared digital space. Such practices align with research on translanguaging and trans-semiotizing in digitally mediated interaction, which highlights how learners draw on multiple semiotic modes to make agency visible and achievable (Chen, Zhang, & Huang, 2022), as well as with studies demonstrating how emoji use can function as a pragmatic and intercultural resource in online communication (Concu & Raffo, 2024).

From a language-education perspective, these exchanges can be understood as socially mediated processes through which learners drew on linguistic, cultural, and semiotic resources to co-construct meaning in interaction (Weidl, 2025). This interpretation aligns with research on plurilingual competence, which conceptualizes language use as dynamic and negotiated, involving flexible mobilization of communicative repertoires in situated contexts rather than discrete, system-bound competencies (Piccardo, 2018; Převrátlová, 2025). Recent research synthesizing empirical studies of plurilingual pedagogy further illustrates how plurilingual practices emerge in learner interaction across diverse contexts, often as spontaneous strategies for mediation and meaning-making rather than as formal pedagogical tools (Chen, Shalizar, & Piccardo, 2022).

When viewed through this lens, emergent plurilingual and trans-semiotic practices functioned as inclusive supports for participation and meaning-making, rather than as discrete or pre-planned pedagogical techniques.

These observations suggest that while plurilingual mediation was not a predefined focus of the study, its emergence constitutes an important dimension of inclusivity within the SLE. The findings indicate that adult ESL/EFL learners instinctively mobilized their linguistic and cultural repertoires to mediate understanding, support peers, and sustain participation, even in the absence of explicit plurilingual instruction. This emergent dimension not only enriches interpretation of learner experience within the present study, but also points toward future research opportunities to examine plurilingual and mediation strategies more explicitly, particularly in relation to how learners draw on their full communicative repertoires to maintain interaction and collaborative learning in digitally mediated environments.

6.3.8. Equitable Design Practices and Areas for Improvement

Equity was a central feature of the learning design. Participants consistently highlighted flexible pacing, personalized pathways, and multimodal resources as elements that created fairness by enabling everyone to participate on their own terms. Research confirms that differentiated design strategies and scaffolds for participation foster equitable engagement, particularly in heterogeneous groups (Tomlinson, 2014; Gay, 2018; Garrison, 2016). Learners also noted that instructor prompts, and peer interactions gave quieter students opportunities to contribute, reinforcing the importance of proactive facilitation for equity (Hrastinski, 2008).

However, several gaps in equity were identified. Learners expressed a need for more targeted support in underrepresented skills such as writing and grammar, reflecting evidence that explicit instruction in core competencies is critical for language development (Derwing & Munro,

2015; DeKeyser, 2007). This element was partially introduced by design as the SLE was ultimately designed as a support structure to compliment the on-going formal learning courses which are, inherently, heavily incorporated with writing and grammar lessons. Others raised concerns about technical challenges and digital literacy barriers, which risked excluding less tech-savvy participants. Research cautions that access to technology alone does not guarantee equity; without structured digital support, learners may remain disadvantaged (Selwyn, 2016; Warschauer, 2004).

These insights reinforce the fact that equitable design is an ongoing, iterative process that requires deliberate efforts to identify and remove barriers to participation. By integrating learner feedback, expanding targeted support mechanisms, and ensuring cultural and linguistic inclusivity, educators and course designers can develop more robust, accessible, and empowering educational experiences. (Meyer et al., 2014). Incorporating skill-specific workshops, expanded technical support, and culturally responsive pedagogy could strengthen inclusivity and reduce disparities (Ladson-Billings, 1995; Cummins, 2001), particularly when implemented in ways that move beyond surface-level inclusion.

It is evident that while the SLE succeeded in creating low barriers to participation, systemic inequities such as skill gaps and digital divides persisted. Addressing these challenges requires sustained, intentional design strategies that extend beyond access alone to support equitable participation and outcomes. At the same time, the scope of this research imposed limitations on how deeply issues of identity, race, gender, and other intersecting factors could be examined. In keeping with the study's recruitment and ethical framework (see Chapter 4), which prioritized participant-controlled disclosure and true anonymity, formal demographic data were not collected, precluding analysis of how specific learner identities may have shaped access, participation, or perceptions of equity.

This absence reflects both an ethical decision to minimize the risk of overexposing personal information within a small participant cohort and a methodological limitation, as intersectional dynamics often shape experiences of inclusion and exclusion in language learning contexts (Crenshaw, 1991; Norton, 2013). Future research would benefit from designs that explicitly examine these dimensions, using ethical frameworks that balance participant protection with the analytic value of identity-related data.

6.4. Chapter Summary:

To further consolidate analysis of the Phase 2 results presented in this chapter with the interpretive discussion, the following table synthesizes the key participant themes identified across the Phase 2 analysis and maps them onto the study’s two guiding research questions for this phase: **Research Question 1 (motivation and engagement)** and **Research Question 2 (social and collaborative learning within a Seamless Learning Environment)**. This organization makes explicit how learners’ reported experiences, challenges, and perceptions relate to motivational dimensions of the SLE and to the socially distributed processes through which learning was co-constructed. In doing so, the table functions as an analytic synthesis that consolidates the findings and establishes a clear conceptual bridge between the descriptive results and the integrative interpretation developed in the concluding chapters.

Phase 2 Theme (section 6.2)	Interpretation	RQ1 Link (Motivation & Engagement)	RQ2 Link (Social & Collaborative Learning)	Concrete Examples from the SLE	Corresponding Subheading in Chapter 7	Corresponding Subheading in Discussion (6.3)
1. Positive Learning Aspects	Learners highlight culturally relevant content, flexibility, engaging activities, and a safe atmosphere as central motivators.	Cultural relevance and real-life application increased intrinsic motivation; flexible pacing encouraged sustained engagement.	Interaction-rich tasks supported shared meaning making and strengthened group cohesion.	<ul style="list-style-type: none"> • Cultural topics (immigration, Canadian norms). • Self-paced Telegram modules. • Games and multimedia lessons. • Low-stress speaking atmosphere. 	A.1 Positive Learning Aspects	General Learning Experience: Strengths, Challenges, and Features

2. Negative Learning Aspects / Remaining Challenges	Learners express desire for more pronunciation work, writing practice, and targeted skill instruction.	Perceived skill gaps reduced confidence and hindered long-term engagement.	Insufficient scaffolding sometimes weakened peer-supported learning opportunities.	<ul style="list-style-type: none"> • Limited focused pronunciation tasks. • Minimal extended writing tasks. • Occasional technical issues affecting participation. 	A.2 Negative Learning Aspects	Balancing Flexibility with Skill-Based Instruction
3. Memorable Course Features	Games, real-life scenarios, and multimodal resources were described as the most memorable and motivating.	High interactivity increased enjoyment, lowered anxiety, and promoted consistent participation.	Shared game experiences and collaborative tasks reinforced collective engagement and co-learning.	<ul style="list-style-type: none"> • Game-based discussions. • Canadian cultural scenarios. • Multimedia content used for joint tasks. 	A.3 Memorable Course Features	Motivating and Engaging Elements of SLE Design
4. Collaboration & Peer Interaction (embedded across many participant quotes)	Learners strongly valued peer exchange, cultural sharing, and discussion-based learning.	Social motivation was enhanced by hearing diverse stories and learning from peers.	Synchronous and asynchronous interactions supported distributed cognition and collaborative scaffolding.	<ul style="list-style-type: none"> • Peer-led discussions. • Experience sharing on cultural topics. • Negotiation of meaning in group chats. 	(Across A and subsequent subsections in Ch.7)	Socially Distributed Cognition & Peer-Supported Learning
5. Equity & Participation	Learners consistently reported that the environment felt equitable, democratic, and accessible.	Feeling included and supported boosted motivation and willingness to participate.	Equal access to tools and structured turn-taking fostered balanced social presence.	<ul style="list-style-type: none"> • Instructor prompting quiet students. • Equal access to messaging tools. • Personalized learning pacing promoting fairness. 	H.1 Equitable Experiences	Equity, Universal Design for Learning, and Inclusive Participation
6. Suggestions for Improvement	Participants suggested increased pronunciation practice, attention to specific needs, and technical support.	Addressing specific needs promotes sustained engagement and reduces affective barriers.	Improving supports strengthens group functioning and smoother collaborative participation.	<ul style="list-style-type: none"> • Requests for more pronunciation tasks. • Desire for additional technical scaffolds. • Need for targeted skill-based sessions. 	H.3 Suggestions for Equitable Design	Areas for Enhanced Instructional Design in SLEs
7. Assessment & Progress Measurement	Learners rely on informal and authentic assessments to understand progress; formal tests seen as costly or stressful.	Real-world indicators of improvement increased internal motivation and perceived relevance.	Informal social feedback (e.g., conversations with peers) functioned as collaborative evaluation.	<ul style="list-style-type: none"> • Confidence during presentations. • Feedback from peers/social interactions. • Recognition of improvement through daily tasks. 	G.1–G.3 Assessment Subsections	Authentic, Learner-Centered Evaluation Practices

Table 4. Phase 2 summary chart

The synthesized themes in this table demonstrate how participants' post-implementation experiences within the Seamless Learning Environment directly address the study's Phase 2 research questions. With respect to **RQ1 (motivation and engagement)**, the findings indicate that learners' motivation was sustained through flexible access, opportunities for personalization, and, critically, through socially meaningful participation. Engagement was not experienced as an individual or purely affective state, but as an emergent condition shaped by learners' sense of agency, recognition, and ongoing interaction with peers within the learning environment. This understanding of motivation as socially situated and sustained through meaningful participation aligns with research in second language motivation and engagement that foregrounds agency, relational dynamics, and context-sensitive learning environments (Dörnyei & Ushioda, 2011; Mercer, 2019; Norton, 2013).

In relation to **RQ2 (social and collaborative learning)**, the findings show that learning within the SLE was fundamentally co-constructed through dialogue, peer support, and shared regulation of tasks and meaning. Participants' reflections highlight the central role of social presence, collaborative problem-solving, and distributed cognitive effort in shaping learning experiences. Importantly, these collaborative processes were not ancillary to motivation; rather, they functioned as the primary mechanisms through which engagement was generated and sustained. These findings are consistent with social constructivist and distributed cognition perspectives that conceptualize learning as emerging through collaborative activity, shared regulation, and interaction with peers and mediating tools (Vygotsky, 1978; Hutchins, 1995; Stahl, Koschmann, & Suthers, 2006).

The Phase 2 findings suggest that motivation and collaboration operated as interdependent processes within the SLE, with social interaction serving as both a driver of engagement and a site

of learning itself. At the same time, the synthesis foregrounds how access conditions, assessment practices, and facilitation influenced learners' ability to participate equitably in these processes. This integrated reading of RQ1 and RQ2 provides the conceptual foundation for the interpretive discussions, where the implications of SLE design choices for learner agency, participation, and collaborative learning trajectories were examined in greater depth.

Figure 8 (see below) provides a visual synthesis of the Phase 2 post-implementation findings to support analytic clarity and coherence by consolidating key themes emerging from participant reflections in relation to the study's two research questions: RQ1 (Motivation and Engagement) and RQ2 (Social and Collaborative Learning). The figure is included to make explicit how learner-reported experiences related to motivation, collaboration, equity, assessment, and areas for improvement intersect across research questions, rather than aligning discretely with a single outcome. By visually mapping these thematic overlaps, the figure functions as an interpretive aid that complements the preceding analysis, summarizing complex qualitative findings and reinforcing the integrated, holistic nature of learning within the Seamless Learning Environment.

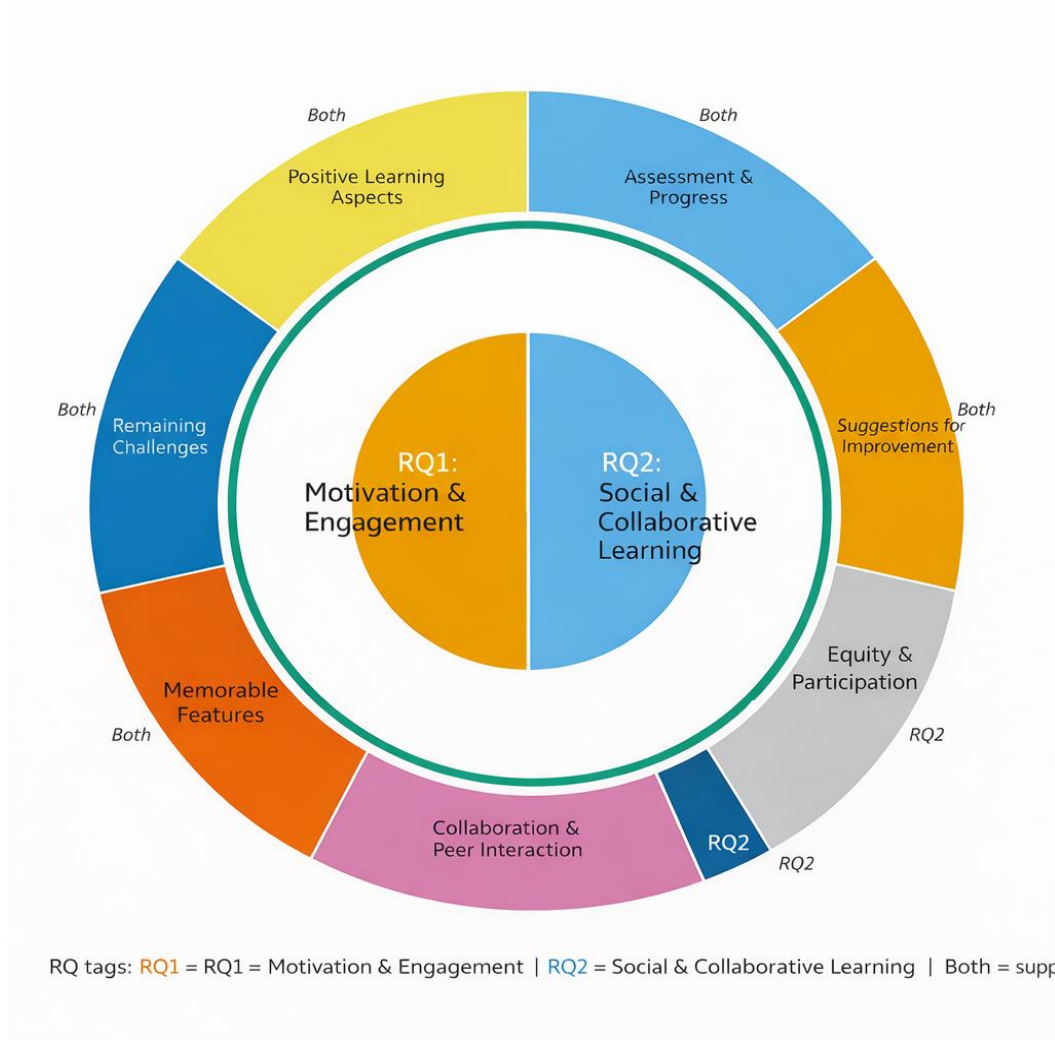


Figure 8. Sunburst model mapping Phase 2 themes to the two guiding research questions (RQ1: Motivation and Engagement; RQ2: Social and Collaborative Learning).

7. Limitations and Future Research Implications

7.1. Limitations of the study

This study was designed as a qualitative, participatory investigation of adult learners' experiences within a Seamless Learning Environment (SLE). As such, its findings are best understood in relation to the conditions under which the inquiry was conducted. The limitations

outlined below define the scope and interpretive boundaries of the study and situate the findings within the conditions under which the inquiry was conducted.

First, the study was situated within a specific educational context involving adult ESL/EFL learners participating in a digitally mediated SLE. This contextual grounding was intentional and central to the study's aims, enabling close examination of learner motivation, engagement, and collaboration as they unfolded in an authentic learning environment. While the findings are not intended to be statistically generalizable, they offer analytically transferable insights into how seamless, socially mediated learning environments can support adult language learners, particularly in relation to motivation and collaborative meaning-making.

Second, the study adopted a Critical Participatory Action Research (C-PAR) approach that prioritized responsiveness, learner agency, and iterative adaptation over experimental control. The SLE was not implemented as a fixed instructional intervention but evolved in dialogue with participants' needs and patterns of participation. This design choice strengthens the ecological validity of the findings and aligns directly with the study's theoretical foundations in social constructivism and distributed cognition. At the same time, it constrains claims about the effects of isolated design features, reinforcing the study's focus on understanding learning processes rather than establishing causal relationships.

The study relied primarily on qualitative data sources, including focus group discussions, observational insights, and participant reflections. These data were well suited to addressing the study's three research questions, which focus on learners' needs and instructional requirements within the Seamless Learning Environment (RQ3), as well as their experiences of motivation and engagement (RQ1) and social and collaborative learning (RQ2). While the study did not include standardized, researcher-administered measures of language proficiency, participants consistently

reported perceivable improvements in their communicative ability. In both Phase 1 and Phase 2, learners described evaluating their progress through their increased capacity to interact confidently and effectively in everyday social and professional contexts. These self-reported, experience-based indicators of development are consistent with sociocultural perspectives on language learning, which emphasize functional participation and social interaction as meaningful measures of language competence. Accordingly, the findings provide a robust evidentiary basis for interpreting how learners experienced development, engagement, and collaboration within the SLE, in alignment with the study's aims.

Ethical commitments also shaped the scope of analysis. In keeping with the study's emphasis on participant autonomy and true anonymity, formal demographic data were not collected. This decision supported trust and open participation within a small, publicly visible online learning community and was consistent with the participatory ethos of the research. While this approach limits fine-grained intersectional analysis, issues of equity and inclusion were examined through participants' lived experiences of access, participation, and engagement rather than through demographic categorization. This focus aligns with the study's research questions and does not undermine the validity of the findings.

Participation within the SLE was voluntary and, as is typical in open digital environments, uneven. Some learners contributed more visibly than others, reflecting differing comfort levels, schedules, and communicative preferences. These participation patterns are treated in the analysis as meaningful features of the learning environment rather than methodological shortcomings, informing the interpretation of engagement and collaboration as socially situated and variably enacted processes.

Finally, the researcher's role as designer, facilitator, and analyst is acknowledged as an integral feature of the study's participatory design. In this role, the researcher also served as the sole provider of ongoing facilitation and learner support within the Seamless Learning Environment, responding to participant needs on a continuous basis throughout the implementation period. While time and resources were necessarily finite, sustained support was maintained in practice, enabling responsive facilitation and close engagement with learner activity. This embedded positionality afforded deep contextual understanding and required ongoing reflexivity in interpretation. Rather than compromising the findings, the researcher's integrated role strengthened the alignment between the research framework, the learning environment as enacted, the data collected, and the analytic claims advanced.

These limitations clarify the parameters within which the findings should be interpreted without detracting from the study's contributions. The results remain well supported by the data and offer a coherent, credible, and theoretically grounded response to the research questions, advancing understanding of how Seamless Learning Environments can support motivation, engagement, and collaborative learning among adult language learners.

7.2. Implications for Future Research

While this phase provides valuable insights into instructional design within a Seamless Learning Environment (SLE), several areas warrant further exploration to enhance understanding and optimize learning outcomes. The following directions for future research are proposed based on further availability of time, resources and greater participation, for enhancement of the initial phase of this project:

7.2.1. Longitudinal Studies on Fluency Development

While this project highlights the immediate benefits of seamless learning environments for ESL learners, there is a need for long-term investigations into fluency development. Future research should examine how sustained exposure to SLEs influences learners' fluency, accuracy, and retention over extended periods. A longitudinal approach (tracking learners over months or years) would provide a clearer picture of proficiency progression, fossilization of errors, and the durability of linguistic gains. Additionally, such studies could explore differential effects across proficiency levels, shedding light on whether novice learners benefit similarly to more advanced learners from extended engagement in SLEs. While the duration of this project expanded over two semesters, it was launched as a supplementary support to the participants' long-term and ongoing formal language studies. Launching the SLE as the main and long-term established method of instruction for a larger group of students, preferably with various proficiency levels, would confirm and validate a more accurate representation of this project's results.

7.2. Impact of AI and Adaptive Technologies

With the rapid integration of AI tools in language education, future research should scrutinize how AI-generated feedback and adaptive learning pathways can reshape ESL learning in SLEs. In the earlier phase of this project, the SLE lacked built-in AI capabilities; but during analysis, tools such as automated correction, conversational bots, and adaptive suggestions were introduced experimentally. Exploring how these assistive technologies interact with human-mediated instruction is now crucial.

Recent literature points to nuanced possibilities and tensions. For example, generative AI tools such as ChatGPT are increasingly used for writing feedback, particularly to flag grammar, coherence, and surface errors. Yet scholars stress that deeper, contextual feedback still demands

human oversight (Huang, 2025). In comparative studies of AI versus teacher feedback on argumentative writing, findings suggest that AI can match human feedback on certain dimensions (coherence, structure), especially when prompts are well scaffolded, though issues of depth and nuance remain contested (Liu & Wang, 2025).

Similarly, adaptive platforms combining AI, natural language processing (NLP), and gamification have demonstrated measurable gains in vocabulary recall and syntax accuracy (e.g., +25% vocabulary, +30% syntax) over control groups, alongside increased engagement rates (Khan & Al-Rahmi, 2025). Still, these systems are not without limitations; overreliance on AI, algorithmic bias, and lack of interpretive depth are recurring cautions in reviews of AI in language teaching (Zhou & Lim, 2024).

Given these developments, future research should examine how AI-driven tools can best support ESL learning within Seamless Learning Environments (SLEs). One promising avenue is to evaluate hybrid models that combine AI feedback with teacher mediation, in order to balance efficiency with pedagogical depth. Similarly, adaptive algorithms that personalize content or adjust difficulty in real time warrant investigation, particularly for learners with diverse starting points and learning styles. Another emerging consideration is learners' prompt literacy, as their ability to craft effective prompts can significantly influence the quality and utility of AI-generated feedback.

At the same time, equity and access issues, including algorithmic bias, data privacy, and the digital divide, must be critically assessed to prevent the widening of existing gaps among learners. AI offers powerful affordances (speed, personalization, scalability) but must be integrated thoughtfully, with human guidance and equity safeguards. Staying up to date with technology in this section in future replications of this research will help anchor the SLE within a critically engaged, forward-looking research trajectory.

7.2.3. Intercultural Competence in ESL Learning

Beyond linguistic development, ESL learning is inherently tied to cultural adaptation and identity negotiation. Future research should investigate how SLEs facilitate intercultural competence, particularly in online and hybrid settings where learners engage with diverse linguistic and cultural communities. Key areas of inquiry could include how immersive digital environments (e.g., virtual reality, metaverse-based learning) shape learners' cultural awareness, whether authentic interactions in multilingual spaces foster deeper cross-cultural understanding, and how identity shifts occur within these environments. Additionally, studies could explore how different pedagogical frameworks within SLEs impact learners' abilities to navigate linguistic and cultural boundaries effectively. While this research briefly touches on the subject of cultural and identity representation, it does not delve deeply into the study of this particular topic as it was not the main focal point of the research and limited time, and resources were available to the researcher.

Integrating Plurilingual Strategies into the SLE Design

Although English served as the principal language of instruction, the Seamless Learning Environment (SLE) was intentionally designed to value and incorporate learners' plurilingual and pluricultural repertoires as essential cognitive and communicative resources. This orientation built upon the plurilingual perspective discussed in Chapter 2, recognizing that multilingual individuals draw flexibly on all their languages to mediate understanding, construct meaning, and negotiate communication (Cenoz & Gorter, 2013; Piccardo, 2018; García & Wei, 2014). Learners were encouraged to use their first languages as tools for comprehension, comparison, and reflection, and to draw on their diverse linguistic and cultural experiences during collaborative exchanges. This was particularly visible in activities that required learners to explain cultural concepts,

translate expressions, or share examples from their linguistic backgrounds, enabling richer intercultural dialogue and metalinguistic awareness. As a concrete example of pluricultural exchange, the participants really enjoyed sharing stories of growing up in their home countries and compared similarities and differences in traditions and customs. An ongoing favourite activity, which offers a limited illustration of emergent cross-linguistic meaning-making rather than systematic plurilingual strategy used by participants, was sharing idiomatic expressions in English and then finding equivalents or similar expressions in their native languages and sharing it with each other in the chat forum.

From a social constructivist perspective, these practices facilitated co-construction of knowledge and meaning across linguistic boundaries, enhancing peer collaboration and mutual understanding (Council of Europe, 2022; Piccardo & North, 2020) . When interpreted through a distributed cognition framework, learners' occasional use of first-language resources can be understood as a form of shared cognitive scaffolding, distributing mental effort across languages, tools, and individuals in ways that supported meaning-making and retention (Dolas et al., 2022). Viewed through a Universal Design for Learning (UDL) lens, allowing space for emergent plurilingual practices aligns with commitments to multiple means of representation and expression, affirming that linguistic diversity functions as a resource for learning rather than a barrier to be overcome.

In practice, learners' plurilingual engagement emerged naturally through peer interaction, multilingual use of digital tools, and self-directed strategies such as translation, paraphrasing, and code-switching. These dynamic linguistic practices extended learners' cognitive and affective engagement while reinforcing identity validation and cultural belonging within the SLE. This

plurilingual dimension, although not initially foregrounded as a thematic variable, became a powerful enabler of distributed learning and intercultural growth discussed in chapter 6 (see 6.3.7).

7.2.4. Collaborative Learning and Peer Scaffolding

Given the socially distributed nature of learning in SLEs, further research is needed to examine the role of peer interaction and scaffolding in fluency development. Studies could assess how learners co-construct knowledge through collaborative tasks and whether peer feedback mechanisms contribute to sustained linguistic improvement. In particular, research on peer scaffolding in fully autonomous digital learning environments (where learners lack direct instructor guidance) could offer insights into how social learning principles operate in technology-mediated spaces. Moreover, future investigations might explore the influence of group dynamics, peer roles, and community-building strategies on learning outcomes in SLEs, providing valuable implications for the design of collaborative digital learning ecosystems.

By addressing these research gaps, subsequent research can contribute to a more nuanced understanding of how seamless learning environments shape ESL learning, technological mediation, and intercultural development, ultimately informing more inclusive, effective, and adaptable language learning frameworks.

7.2.5. Enhancing Structured Personalization and Autonomy

Although many participants appreciated the freedom to personalize their learning, several noted that too much flexibility without scaffolding led to confusion and loss of focus. Future research should investigate how to calibrate “structured autonomy” in SLEs—i.e. how much guidance is needed, in what form, and at what stages. In particular, studies might examine how AI-driven recommendation systems can support learners in choosing tasks, pacing themselves, or recovering from stalled progress without feeling constrained. Comparing different scaffolding

models with user feedback could lead to hybrid designs that balance autonomy and direction, thereby reducing cognitive overload while preserving learner agency.

7.2.6. Balancing Equity in Peer Collaboration

Peer collaboration surfaced as a rich site of both promise and tension. To better understand how to promote equitable participation, future studies should test structured peer interaction frameworks, such as role assignments, scaffolded discussion protocols, or AI-mediated peer feedback, that explicitly aim to distribute turn-taking, participation, and leadership more evenly. Researchers should also explore how multimodal collaboration tools (voice, video, text, simulation) may lower barriers for learners with lower confidence or limited digital literacy. Finally, embedding culturally responsive tasks and intercultural exchange opportunities in peer work may nurture inclusive engagement and help learners negotiate identity through collaboration.

7.2.7. Designing More Inclusive Digital Learning Spaces

While the current study established that flexible and multimodal design supports accessibility, inclusion remains fragile. Future work should explore how to integrate more diverse linguistic and cultural perspectives into learning content, moving beyond homogenized contexts to include global voices, community narratives, and diaspora experiences.

Research should also test the application of UDL heuristics within SLEs, especially for learners with different cognitive styles, language backgrounds, socio-economic situations or accessibility needs. Incorporation of hybrid models, blending online flexibility with occasional in-person or synchronous meetups, merit further exploration, particularly for their potential to strengthen social connection, professional communication skills, and fluency.

7.2.8. Optimizing Feedback and Learner Support

This study reaffirmed the importance of feedback but also revealed gaps in how learners used feedback. Future research could explore AI-enabled feedback systems (e.g. automated writing assistants, pronunciation analysis, adaptive scaffolding) to see how scalable, context-sensitive feedback compares with human-led feedback in motivating learners and improving outcomes. At the time this research was conducted, AI and algorithmic LLMs were not advanced enough to be incorporated as independent sources of feedback and content sourcing, but they now present an unprecedented opportunity into studying the future of autonomous language learning.

Studies might also compare different feedback modalities (text, voice, video, chatbot) and test scaffolding designs that guide learners in reflecting on and applying feedback, rather than passively receiving it. Measuring the influence of these modalities on learner self-efficacy, motivation, and sustained improvement would yield actionable insights for SLE designers.

7.2.9. Exploring Socio-Emotional Dynamics in Digital Learning

Beyond cognition and pedagogy, emotional and psychological dimensions of learning demand deeper attention. Future studies could track how affective factors (e.g. motivation, confidence, anxiety, sense of belonging, social presence) evolve over the duration of a course in synchronous versus asynchronous settings. Investigating how Social-Emotional Learning (SEL) techniques (e.g. structured check-ins, peer support circles, guided reflections) reduce anxiety and enhance community-building would be valuable. Further, more fine-grained study of instructor immediacy behaviors (i.e. humor, empathy, personalized messages, encouragement, etc.), can clarify how emotional engagement contributes to retention and deeper participation in SLEs.

7.2.10. Intersectionality and the Shaping of Learner Experience

No study of equity is complete without examining how multiple identities intersect to influence learners' access, participation, and sense of belonging. However, demographic data such as gender, race, socioeconomic status, and disability were not collected in the present study. This decision was intentional and grounded in both ethical and methodological considerations. As the study focused primarily on exploring *learning experiences* within a Seamless Learning Environment (SLE) rather than on comparative identity-based outcomes, the collection of demographic data risked shifting attention from participants' voices and lived experiences to categorical distinctions that the small, exploratory sample could not meaningfully support. Moreover, given the close-knit and limited participant cohort, gathering identifiable demographic information could have compromised participant anonymity and comfort, particularly in focus group discussions where sensitive reflections on confidence, cultural adjustment, and language barriers were shared. Prioritizing a trust-based, low-anxiety environment, a key tenet of the study's ethical and pedagogical design, was therefore paramount.

Nevertheless, this choice does represent a limitation. Future research, particularly larger-scale or longitudinal studies, should intentionally and ethically integrate demographic and identity markers, ensuring that participants' consent and privacy are safeguarded. Doing so would enable a more nuanced understanding of how intersectional factors, such as gendered communication norms, migration histories, and cultural identity, shape participation and learning experiences within SLEs. For example, whether learners from racially minoritized communities, older learners, or learners with limited formal schooling experience technology-mediated learning differently. Mixed-methods designs could combine survey demographics with in-depth interviews to trace how intersectional identities influence motivation, resilience, and perceptions of equity in SLEs.

By doing so, future research can move SLE design toward not only accessibility but just and inclusive learning ecosystems where all learners can see themselves represented, supported, and empowered.

Conclusion

This study examined the implementation of a Seamless Learning Environment (SLE) for adult ESL/EFL learners in Canada, focusing on motivation, engagement, distributed cognition, and equitable access. The findings demonstrate that when thoughtfully designed, SLEs provide fertile ground for authentic, socially mediated learning experiences that transcend traditional classroom boundaries. By leveraging technology not as an adjunct but as an integral mediator of interaction, the SLE facilitated learner autonomy, collaboration, and real-world application. At the same time, it surfaced the ongoing challenges of equitable access and underscored the ethical responsibility of educators to design with inclusion at the core.

Motivation and engagement were most strongly shaped by the ability to transition seamlessly between formal instruction and informal practice, between independent reflection and collective dialogue. Participants emphasized how flexible schedules, mobile access, and multimodal resources sustained their commitment to learning despite complex personal responsibilities. These dynamics illustrate the affordances of SLEs in supporting persistence and reducing barriers that often hinder adult learners. Yet, they also reveal that autonomy requires scaffolding. For some participants, the abundance of flexibility created uncertainty or disengagement. This tension highlights a central insight of the research: equity in SLEs is not about maximizing freedom alone, but about carefully calibrating the balance between autonomy and structure so that learners feel both empowered and guided. In this way, the study answers **RQ1** by

showing that SLEs do increase motivation and engagement, but only when autonomy is paired with structured guidance that sustains learner confidence and progress.

Technology, in this study, was not simply a delivery mechanism but a cognitive partner in the learning process. Learners engaged with digital tools, peers, and instructors in ways that distributed cognition across multiple platforms and social networks. The use of discussion boards, collaborative tasks, and technology assisted tools extended learners' ability to process, reflect, and co-construct meaning. This affirms the premise of distributed cognition: that learning is not confined to individual minds, but emerges through interaction with cultural tools and collective knowledge-building.

Importantly, these findings also validate social constructivist principles, demonstrating that language learning becomes most powerful when embedded in authentic dialogue, scaffolded collaboration, and opportunities to negotiate meaning in context. In answering **RQ2**, the study shows that technology directly supports both distributed cognition and social constructivism by acting as a bridge between individual and collective processes, extending learners' cognitive reach and enabling co-construction of knowledge.

Equity and inclusion emerged as both central promises and ongoing challenges of the SLE. Practices grounded in Universal Design for Learning (UDL), such as multimodal content delivery, assistive technologies, and personalized learning pathways, enabled broad participation and reduced barriers for learners with diverse needs. Participants consistently described the course as accessible and supportive, emphasizing the importance of flexible entry points, culturally relevant materials, and responsive instructor feedback. At the same time, gaps, both predicted and emergent, remained. Some learners noted limited cultural representation in course content, and

others pointed to disparities in participation dynamics, where quieter or less confident individuals were overshadowed by more dominant voices.

These tensions underscore the reality that inclusivity is not a static achievement but an iterative process requiring continuous adaptation. In response to **RQ3**, the findings highlight that equitable and inclusive SLEs are best achieved through practices that blend flexibility with scaffolding, expand cultural representation, and actively address participation imbalances.

The study also exposed the broader systemic barriers that frame ESL education. While the SLE succeeded in lowering many practical barriers, such as commuting, scheduling, and immediate access to resources, structural inequities persist that no single course design can erase. Issues such as the digital divide, where access to reliable internet or devices remains uneven, continue to limit participation. Institutional inertia, where non-traditional models are undervalued or underfunded, also restricts the potential of SLEs to be widely adopted. Furthermore, prevailing socio-political narratives often frame ESL learners in deficit terms, emphasizing what they lack rather than recognizing the assets they bring. These systemic challenges call for broader policy and institutional reform alongside pedagogical innovation.

Another limitation of this research was the absence of demographic data collection, which prevented an intersectional analysis of learners' experiences. While findings clearly demonstrated the value of SLEs in supporting engagement, autonomy, and inclusion, the study could not account for how overlapping identities such as race, gender, immigration status, or disability might have shaped participation. This absence does not diminish the value of the findings but highlights an urgent direction for future research. Intersectionality must be central to understanding how learners experience technology-enhanced environments, as equity cannot be fully addressed without acknowledging the layered realities of identity and systemic inequality.

Concurrently, the study revealed that learners were not passive recipients of instructional design but active co-constructors of the learning environment. They shared resources, initiated conversations, adapted tasks, and transformed digital spaces into collaborative communities that reflected their own needs and aspirations. This co-construction disrupted traditional power dynamics, repositioning learners as agents in their own education. It demonstrated that when learners are empowered to shape the learning process, the SLE evolves beyond a platform into a living, collective system of meaning-making.

In reflecting on the findings, what emerges most strongly is that technology, pedagogy, and equity are inseparable in the pursuit of inclusive language education. Technology can mediate access, amplify learner agency, and create new opportunities for collaboration, but without equitable and responsive design, it risks reproducing exclusion in new forms. Pedagogy provides the framework for structuring participation and supporting learner growth, but it must be informed by a commitment to inclusion that recognizes learners as diverse, capable, and resource-rich. Equity, meanwhile, is not an outcome to be achieved once but a continual process of questioning, adapting, and redesigning to ensure that all learners can participate fully.

Hence, the findings of this research reaffirm that SLEs have the potential to transform ESL/EFL education when designed with equity and inclusivity at their core. They offer a model of learning that is not confined to classrooms but flows across contexts, devices, and communities. They create spaces where learners can see their identities reflected, their voices amplified, and their agency validated. Yet they also remind us that technology alone is not transformative, but rather it is the deliberate, ethical design of learning environments, rooted in strong social and cognitive frameworks, that makes transformation possible.

The challenge ahead is to ensure that SLEs do not remain isolated experiments but become integrated into broader educational systems. This will require institutions to embrace flexible and learner-centered models, policymakers to address systemic inequities in digital access, and educators to continually innovate in response to learners' diverse needs. The task is ambitious, but the stakes are high. Language learning is not only about acquiring words and grammar, but about accessing empowerment, participation, belonging, and opportunity in a globalized world.

The conclusion, then, is both an affirmation and a call to action. Affirmation that seamless, inclusive, and equitable learning environments can profoundly support adult ESL/EFL learners, and a call to action for educators, researchers, and institutions to build on this foundation, expanding cultural representation, addressing systemic inequities, and embracing learner co-construction as central to design. The transformative potential of SLEs lies not just in their technological innovation, but in their capacity to reimagine language learning as a collaborative, equitable, and humanizing endeavor.

Methodological Reflections and Analytical Boundaries

While the methodological choices guiding this study were intentional and aligned with the principles of Critical Participatory Action Research, they also shaped the scope of what could be examined and, consequently, what remained outside the bounds of analysis. First, the decision not to collect demographic data was grounded in a commitment to preserving participant anonymity and fostering a relational, trust-based environment. However, this choice limited the ability to conduct an intersectional analysis of learner experiences. As a result, important dimensions related to how factors such as migration trajectories, socio-economic positioning, gender, or prior educational background may have shaped motivation and engagement could not be systematically explored within the findings.

Second, while the study benefited from rich, sustained engagement with participants, the formal data collection methods did not fully capture the depth and intricacy of individual lived experiences. As discussed earlier, participants often shared more nuanced and vulnerable insights in informal interactions within the Seamless Learning Environment (SLE) than in structured research settings. Although these interactions informed the researcher's interpretive understanding, they were not always represented in a systematic or individually traceable manner in the formal dataset. Consequently, certain layers of participants' experiences, particularly those related to personal challenges and evolving learning trajectories, remain only partially reflected in the analysis.

Finally, the SLE itself generated a substantial archive of learner-produced artifacts, including multimodal exchanges, shared resources, and ongoing conversational data that reflect participants' linguistic repertoires, including plurilingual and intersemiotic practices. While this body of data offers significant potential for deeper linguistic and semiotic analysis, it was not systematically examined within the scope of the present study, which remained focused on the guiding research questions related to motivation, engagement, and learning experience. Future research could build on this archive to explore these dimensions more explicitly.

Together, these considerations highlight that the findings of this study should be understood not as exhaustive representations of participant experience, but as situated insights shaped by deliberate methodological boundaries.

Final Reflections and Future Directions

The journey of this research has underscored the profound complexity of designing and sustaining equitable learning environments in adult ESL/EFL education. While the study demonstrates the promise of Seamless Learning Environments in expanding access and fostering

engagement, it has also highlighted the inherent tensions between autonomy and structure, flexibility and accountability, innovation and systemic constraint. These tensions reflect the broader challenges facing education in an era of rapid technological change: how to harness new tools and pedagogies without losing sight of the human, relational, and cultural dimensions of learning. In this sense, the research not only examined the mechanics of digital learning design but also invited reflection on the ethical responsibilities of educators to create spaces where learners can thrive despite systemic inequities.

As the future of adult ESL/EFL education unfolds in an increasingly digital and interconnected world, it is imperative that educators, institutions, and policymakers recognize the potential of Seamless Learning Environments as transformative spaces for equity, inclusion, and learner empowerment. This study has shown that when learner agency is centered, culturally responsive approaches are integrated, and emerging technologies are leveraged through the principles of Universal Design for Learning, language education can be reimaged not merely as the acquisition of linguistic proficiency, but as a meaningful pathway toward social participation, cultural belonging, and sustained engagement in everyday life.

At the same time, the findings underscore that such environments are most effective when they remain responsive rather than prescriptive, evolving in dialogue with learners' needs, identities, and modes of participation. Designing learning ecosystems that are accessible and adaptive, yet also co-created with learners, requires ongoing attention to facilitation, equity, and the social dimensions of learning that extend beyond formal instruction. In this sense, Seamless Learning Environments are not fixed solutions, but dynamic spaces shaped through interaction, collaboration, and shared responsibility.

Grounded in the empirical insights generated through this research, this thesis contributes a situated and practice-informed perspective on how adult language learning can be supported in digitally mediated contexts. By bringing together learner experience, adaptive design, and socially distributed learning processes, the study concludes by affirming the value of learning environments in which every voice can be heard, every identity affirmed, and every learner is positioned as an active participant in their own learning journey, marking a considered and coherent close to the inquiry undertaken here.

Figure 9. Research questions and answers overview

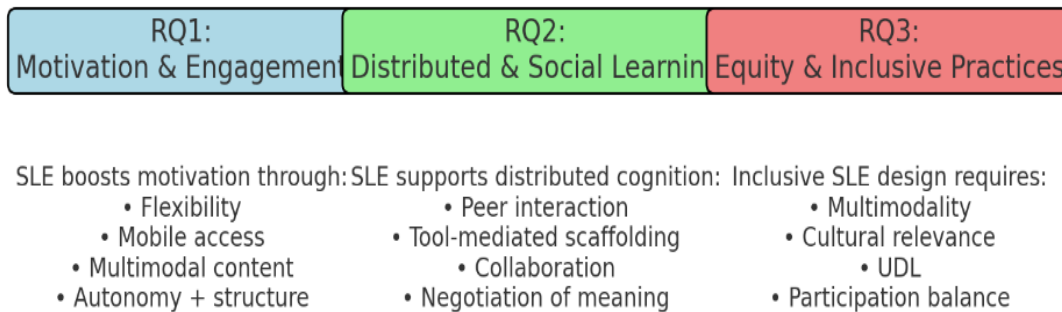


Table 5. Research questions and answers summary

Research Question	Answer Based on the Conclusion Chapter
RQ1: How do Seamless Learning Environments (SLEs) influence the motivation and engagement of adult ESL/EFL learners?	SLEs increased motivation and engagement by allowing learners to move fluidly between formal instruction and informal practice, sustaining their learning despite complex personal responsibilities. Flexible schedules, mobile access, and multimodal resources enhanced persistence and reduced barriers. However, too much autonomy sometimes caused uncertainty or disengagement, indicating that motivation improves only when autonomy is paired with structured guidance.
RQ2: How does the SLE support distributed cognition and social collaborative learning among adult ESL/EFL learners?	The SLE functioned as a cognitive partner, enabling learners to engage with peers, tools, and digital platforms in ways that distributed cognitive load across resources. Learners extended their meaning-making through discussion boards, collaborative tasks, and technology-assisted tools. The findings validate both distributed cognition and social constructivism: learning emerged through interaction, authentic dialogue, scaffolding, and negotiation of meaning.

RQ3: What promising practices support the design of equitable and inclusive SLEs for adult ESL/EFL learners?

Equitable SLEs require a blend of flexibility and scaffolding, multimodal content, UDL principles, and culturally relevant materials. Participants valued accessible design, personalized pathways, and responsive instructor feedback. Remaining challenges—cultural representation gaps and uneven participation—show that inclusivity is iterative, requiring intentional adaptation. Effective inclusive design addresses participation imbalances and ensures diverse learner identities are reflected and supported.

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Appendices

Appendix A – Recruitment Poster

Appendix A - Recruitment Poster.pdf

Appendix B – REB Approval

Appendix B - REB Approval.pdf

Appendix C – Consent Form

Appendix C - Consent Form.pdf

Appendix D – SCC (Student Code of Conduct)

Appendix D - Students Code of Conduct.pdf

Appendix E – Focus Group Questions

Appendix E - Focus Group Questions.pdf

Appendix F - Quotation Tables

Phase 1: A1
Quote
F2S1: Proficiency. Simple.
F2S2: I also want to be influent in my conversation and to each other.
F2S4: Yeah. Uh. I have a little problem in listening actually, especially when uh some guys from China or India they are talking. I rarely can understand what they are, what they are say, what they say. So I need, uh, I think I need to listen more, but uh uh, most of the listening practice that I have had, it's it academic listening, you know, when I go to the society, usually I have a lot of problem by the words or something like that.
F3S1: I wanna like be fluent in English and learn more about the daily English in Canada. Because when it 'cause I am living here, I want to express myself in the native English way. That's why I can kind of fit in this society and the Canadian community. So this is my goal for me to learn English.

F4S2: I want to be more fluent, and I want to have enough confidence to speak with people and understand what they say. You know, living in a new country with new language, a little scary for me and I need to be more powerful in this situation.

F4S3: I hope to improve my speaking and listening skills. I think I don't have that much problem with reading or writing. And regarding listening, I'm very, you know, I'm not comfortable with... the issue that I'm not good at listening is that I don't listen to the podcast or don't watch movies. And if I can improve my listening, I think at the result my speaking skill will be improved and I feel more comfortable. When I mean talking about in academic conversation, it's more easier for me, but when it comes to daily conversation, I cannot like speak well enough.

F5S1: Yeah, my main issue for English study is actually I couldn't speak fluently and in real time. You know when it comes to IELTS exam and so on. Since I had to pass it for my immigration and PhD study and having some kind of template and it's not so distributed and it was OK for me, it was good for me. But when it comes to day-to-day communication, I'm in, I'm in this trouble and I couldn't actually make the communication in real time. And I couldn't since, since it's English is my second language. But I started learning in my old age. I I mean, I didn't start from my childhood and you know it. It needs memorizing words and phrase and so on. So my main issue is in fluently speaking and making communication.

F5S2: Yeah, I wanna be a good speaker. I don't wanna think about finding good words, appropriate tense times. I I don't want to look for verbs when I was talking to someone. I hate that I cannot talk about my feelings in English language. When it comes to feelings, I just switched to, I mean, it's like spontaneously I just switched to (mother language) and that's just so awful for me because I want to be able to, I want to be engaged in this community. So the first thing that I need is to be able to communicate with these people. So that's my purpose. Help me.

Phase 1: A2

Quotes

F2S1: Actually, my main goal is to speak like a native language speaker.

F2S3: Yes. Uh My first uh priority to learn English is that proficiency and improving in English uh language helps me to uh make friends with others and had better communication with other people, other people in society. And I think the most important factor to get promotion in job or society have more common is to have, it is necessary to have a good language. Because most of people living here are expertise in and has proficiency in English language and we need to improve English language.

F2S4: Yeah. Uh. I have a little problem in listening actually, especially when uh some guys from China or India they are talking. I rarely can understand what they are, what they are say, what they say. So I need, uh, I think I need to listen more, but uh uh, most of the listening practice that I have had, it's it academic listening, you know, when I go to the society, usually I have a lot of problem by the words or something like that.

F3S1: I wanna like be fluent in English and learn more about the daily English in Canada. Because when it 'cause I am living here, I want to express myself in the native English way. That's why I can kind of fit in this society and the Canadian community. So this is my goal for me to learn English.

F4S2: I want to be more fluent, and I want to have enough confidence to speak with people and understand what they say. You know, living in a new country with new language, a little scary for me and I need to be more powerful in this situation.

Phase 1: A3

Quotes

F2S3: Yes. Uh My first UH priority to learn English is that proficiency and improving in English uh language helps me to uh make friends with others and had better communication with other people, other people in society. And I think the most important factor to get promotion in job or society have more common is to have, it is necessary to have a good language. Because most of people living here are expertise in and has proficiency in English language and we need to improve English language.

F2S4: Yeah. Uh. I have a little problem in listening actually, especially when uh some guys from China or India they are talking. I rarely can understand what they are, what they are say, what they say. So I need, uh, I think I need to listen more, but uh uh, most of the listening practice that I have had, it's it academic listening, you know, when I go to the society, usually I have a lot of problem by the words or something like that.

F4S2: I want to be more fluent, and I want to have enough confidence to speak with people and understand what they say. You know, living in a new country with new language, a little scary for me and I need to be more powerful in this situation.

Phase 1: B1

Quotes

F2S1: Reading. Actually reading is challenging when it comes to the new vocabularies. But no, generally it's not hard.

F3S1: Ohk maybe some phases and the slangs that are common in Canada, because I'm not familiar with the English. Something formal English so that makes me kind of confused when I am speaking with some native speaker. So that part would be the most challenging for me.

Phase 1: B2

Quotes

F2S3: I think it depends on each other. Uh if you go university and want to get PhD or master degree, I think the listening and writing specifically can be challenging. Or if you had any general job, I think the listening is most important.

F3S1: Ohk maybe some phases and the slangs that are common in Canada, because I'm not familiar with the English. Something formal English so that makes me kind of confused when I am speaking with some native speaker. So that part would be the most challenging for me.

F6S1: Actually my challenge in English is when I when I go to when I go to a construction workshop and actually Canadian talking is different for different in different in I want I want if I if I want to describe the two group in talking in Canadian one group talking in Academy and maybe I I am understand. But in other group is talking in construction in construction workshop is very different accent and very form and accent very different actually I don't understand you know and very very different in talking and I don't understand and some sometimes I am I I have I I have to trying I don't understand and a question question again pardon. Can you please repeat, pardon, pardom. and I am question, but I I I think if I if I had, if I if I have more practice, maybe I am I am OK. But I need for a long time for a more practice.

F6S2: For me speaking and listening are more challenging because these skills are used during the day in in at college, at work and ordinary life. So because the life is speed is so fast here, people don't have time to wait for you to understand and repeat again and again their their ideas or your or their topics for you, you know. So hope yeah so these skills is is really are really tough for me reading and writing. I I think I have time to think about it and I I can use Google Translate activity and something like that. But for listening and speaking right away, I have to react, I have to answer.

Phase 1: B4

Quotes

F1S3: In, of course, for me, daily conversation. You know, when we learn English by attending class and taking IELTS exams, we kind of learned formal English. But we cannot understand the phrasal verb or daily conversation that people use and they and their idioms or some kind of slang that they use. So yeah, it's hard for us to catch up and communicate with them because we actually always talk in talking like something that is too formal, like a book, you know? And yeah, it's, it sounds unnatural.

F1S1: or maybe is the same as uh (Student 3) and daily conversation And of course in some negotiations or in some discussions which you should talk for or against something. It is very tough for me to, I mean to talk about the topic or to get to the point what I mean to others. So I like to improved my daily English language and of course the expressions and maybe everything that they use in negotiations or in for or against these subjects.

F1S2: uh? I also agreed with (Student 3 and Student 1). And as I said before, it's very important for me to describe my ideas in my job and in every company at every company I want to working in. There I have to explain for them what ideas or designed that I decide to design for them. And it's very important that I can communicate with clients and if I couldn't, it's very I got ... I got in trouble. Really serious trouble.

F2S2: Speaking!

F2S1: for me personally is speaking because I always want to translate the language from my mother tongue to English. So it's a bit challenging, but actually I'm I'm seeing that it's getting improved because when you talk a lot, you get familiar with these structures, with the vocabularies. And actually, sometimes I forget. I forget some vocabularies from my mother's tongue, and I remember the the English vocabulary, all our alternative. So I think in my opinion, it's all about practicing. Practicing in the right way, not just practicing the mistakes every time so you won't learn it that way.

F2S1: yes, because writing no. My writing and listening is much, much better than speaking.

F2S4: Yes, I also have a problem with the speaking especially rather than the other skills.

F3S1: Ohk maybe some phases and the slangs that are common in Canada, because I'm not familiar with the English. Something formal English so that makes me kind of confused when I am speaking with some native speaker. So that part would be the most challenging for me.

F4S1: for myself? speaking. Because when you are, you know, reading topics or subjects, you can't get the gist of the context or when you are listening, specially with paying attention specially in person and face to face you can get as enough as you want to actually understand. But about speaking like a child I have I think this is my problem, that I'm thinking in (mother language) after that translating to English, and this is my first step I have to pass to be better. This is fine.

F4S2: actually, I'm weak at speaking and writing. Yeah!

F5S2: Yeah, I wanna be a good speaker. I don't wanna think about finding good words, appropriate tense times. I I don't want to look for verbs when I was talking to someone. I hate that I cannot talk about my feelings in English language. When it comes to feelings, I just switched to, I mean, it's like spontaneously I just switched to (mother language) and that's just so awful for me because I want to be able to, I want to be engaged in this community. So the first thing that I need is to be able to communicate with these people. So that's my purpose. Help me.

F5S3: My big problem is learning English in Canada, because my main major is mathematics and when I was in (home country) I hated from English learning English because I don't know why but I thought it's difficult for a person who works with numbers and it's hard to work with another language. But I have some papers in English paper in Mathematics in Mathematics journal. But I I I couldn't speaking well as well as the other person. I when I came to Canada I participated in CLB in Osiso for CLB 5 and 6 but it it wasn't good but for me because it was be it was online and I couldn't learn and speaking a lot. In these days I participated to Algonquin College for SFS courses, skills for success. But at the ACII couldn't speak well because of my background and I need to communicate with other people for improving my language and it's my goal because I don't have any self-confidence enough self-confidence because of my language. My goal is teaching mathematics here, but I need to improve my language and as you know, I registered as a volunteer for teaching mathematics. I I've done everything but I didn't part attend to the volunteering because of my lack of language. Yeah, it's my big problem here.

F6S1: Actually my challenge in English is when I when I go to when I go to a construction workshop and actually Canadian talking is different for different in different in I want I want if I if I want to describe the two group in talking in Canadian one group talking in Academy and maybe I I am understand. But in other group is talking in construction in construction workshop is very different accent and very form and accent very different actually I don't understand you know and very very different in talking and I don't understand and some sometimes I am I I have I I have to trying I don't understand and a question question again pardon. Can you please repeat, pardon, pardom. and I am question, but I I I think if I if I had, if I if I have more practice, maybe I am I am OK. But I need for a long time for a more practice.

F6S2: For me speaking and listening are more challenging because these skills are used during the day in in at college, at work and ordinary life. So because the life is speed is so fast here, people don't have time to wait for you to understand and repeat again and again their their ideas or your or their topics for you, you know. So hope yeah so these skills is is really are really tough for me reading and writing. I I think I have time to think about it and I I can use Google Translate activity and something like that. But for listening and speaking right away, I have to react, I have to answer.

Phase 1: C1

Quotes

F1S2: You know, I'm a talkative person and so I always enjoy talking about my daily stuff and every uh memory I have. Uh, talking about my friends and what I did in uh all my day. It's so funny for me and I'm always active in this way.

F1S1: Actually, casual chat is beneficial, but I think some games or some stories in which we can learn, for example, some expressions or phrasal verbs,

F1S3: Um, I'm also interested in talking about our experience or daily experience. We are casual chat.

F2S2: and we can we can getting together and uh, to speaking or I don't know, some kind of kinds of practicing but in special hour in each day for each day.

F2S1: ohk OK, OK now I have no answer this you know, because I'm really into a science, especially human and social science. So when it comes to debate, I think my confidence and my speaking really, Really, uh, gets improved every time, Every time. So yeah,

F5S1: Maybe there are some different actually activities that I'm not ever right now but I think free discussion for example asking question and trying to actually have discussion with other my teammates and so on and maybe and doing kind of games together that needs speaking everything which needs a real time speaking and the speaking that is not in my background. When you ask me about my major, my schools and so on since I actually talked about them earlier it comes to my mind easily. But when it comes to something in real time, something which didn't happen to me earlier, it's challenging to me. So I think that everything which could be real time games, free discussion and so on would be interesting to me.

F5S2: I like to be able to produce something in each class. I don't like just to be a listener, I want to be a speaker too. As (Student 1) said like free discussions with different topics and the topics that in like in daily. I mean topics that are somehow, maybe topics that are somehow we are not familiar with When it comes to online classes, I don't know about any games. I I mean, I've never participated in online English, English classes. I don't know if they do games in online platforms. I have no idea. But when it was in person classes, yeah, I enjoyed playing games to learn words and vocabularies, but then it's online. I just like to have time to speak my mind.

F5S3: As (student 1 and Student 2) said, it's better to be a topic or each session or some session because I had a bad experience about the my last class English class. I was just a listener and teacher speaking and other people just listen to teacher. It's good idea to select a topic or each part of science. I it doesn't, it doesn't matter, just science. But maybe it's a game and daily activities it's OK for me. Thank you.

F6S1: I think. I think this class maybe maybe need for in the presentation about in a subject and talking for it. Maybe is good for is good for speaking and listening.

F6S1: What? What? Enjoy actually each program each program help me for improving speaking. I am enjoying no different for example. But I think I say I say maybe maybe you maybe you maybe you give a program and program for fun and both learning in in improved speaking and listening is I I enjoy but but I think if I if I had if I had more time and not one one session in a week maybe better than me, I am OK.

F6S2: When we talk about experiences, daily experiences and you know the casual speaking, it makes me confidence and I enjoy. When I when I feel improvement to speak casually, it makes me happy.

Phase 1: C2

Quotes

F1S1: Actually, casual chat is beneficial, but I think some games or some stories in which we can learn, for example, some expressions or phrasal verbs,

F1S3: That's my favorite. We spent so, so much time reading and doing something that is not fun. So yeah,

F2S2: and we can we can getting together and uh, to speaking or I don't know, some kind of kinds of practicing but in special hour in each day for each day.

F2S3: And also I think the group discussion uh when are you UH are in any party or UH meeting with friends. I think the group discussion is very important to help to get better in future and and sometimes vocabulary, vocabulary games and playing such as playing board game or any activity can help us to enhance my UH World Bank and UH increase my knowledge.

F2S4: Because uh, I also agree with the play game, but I'm not sure uh which which activity we can focus more on listening.

F3S1: Um, maybe just play some games and have an opportunity to speak some English. Yeah, that would be perfect.

F5S2: I like to be able to produce something in each class. I don't like just to be a listener, I want to be a speaker too. As (Student 1) said like free discussions with different topics and the topics that in like in daily. I mean topics that are somehow, maybe topics that are somehow we are not familiar with. When it comes to online classes, I don't know about any games. I mean, I've never participated in online English, English classes. I don't know if they do games in online platforms. I have no idea. But when it was in person classes, yeah, I enjoyed playing games to learn words and vocabularies, but then it's online. I just like to have time to speak my mind.

F5S3: As (student 1 and Student 2) said, it's better to be a topic or each session or some session because I had a bad experience about the my last class English class. I was just a listener and teacher speaking and other people just listen to teacher. It's good idea to select a topic or each part of science. I it doesn't, it doesn't matter, just science. But maybe it's a game and daily activities it's OK for me. Thank you.

Phase 1: C4

Quotes

F2S4: Because uh, I also agree with the play game, but I'm not sure uh which which activity we can focus more on listening.

F4S1: When I started studying English with my actually private coach. I really enjoyed listening to actually music, which I haven't done a lot. I don't know why, but I enjoyed watching movies. But in the class, you know, I think paying attention to, you know, for instance to some tips which I can find in, for instance, a short part of the movie. Or I don't know, I don't know how can I say my... I think you get it. For instance, I don't know, watching short parts of a movie or a story and after that, analyzing the structures, the grammars, I don't know the new force. This is so interesting for me because I think I can learn it a lot when I'm facing the examples.

F4S2: Yes, I'm saying some music because I have a short experience in university. Actually, I want to say when I was studying in a university in (name of city omitted), they they, I don't know how to say that we listened actually to some music to recognize them and watching some Clipper movie, I think is interesting. And I don't know.

F6S1: What? What? Enjoy actually each program each program help me for improving speaking. I am enjoying no different for example. But I think I say I say maybe maybe you maybe you maybe you give a program and program for fun and both learning in in improved speaking and listening is I I enjoy but but I think if I if I had if I had more time and not one one session in a week maybe better than me, I am OK.

Phase 1: D1

Quotes

F1S3: Well, actually I prefer a storytelling and the suggestion that you made write some story and talking about it and give a summary of it and kind of like this. It's more fun.

F3S1: Um, Ted Talks. Or you've been under knowledge from different field, maybe from psychology, from history. Yeah, I I like learning something new from different disciplines,

F4S2: I think. Books and some lectures or sending voice. I don't know. I'm saying true or not. But I think they are better for me.

F4S3: Did I understand? I'm not sure if I understood the question correctly. You mean by learning content you mean just the material, like books or? OK, yeah, yeah, I'm more comfortable with reading, but it's not the my weakness. So I prefer to work on my weakness to improve, which is my listening and speaking. So again, movies, you know, videos or some podcast was more preferable.

F5S1: It's kinda hobby to me. And I I don't like to watch movie to learn English since I think it's actually somehow ruined my good mood, good mood to actually, yeah, you know that's watching movies kinda hobby but I tried podcast and I think it works for me. And about listening also, I think it's it's also good for me. Maybe I need to. I think I have to start watching movies to actually improve my English skills, but I didn't try it yet.

F5S1: Yeah, I'm not familiar with all options. I just tried. I just tried listening podcast and it works to me.

F5S2: for me. I've, I've tried watching movies. I and I can say that was very helpful and most of the English that I speak it's from movies and so. But these days I mostly listen to English podcast daily. I try to expose myself with English as much as I can listening to Ted talks and most of the time yes some Ted podcast, but also I try to watch some series because I'm not a fan of series at all. I just do that like, as a homework. Yeah. And I I tried reading books to learn English. That wasn't helpful. Maybe because it was. It took too long to learns. I'd rather something to learn faster. Movies gave me. I mean movies were the most helpful for me. So I'd still rather movies.

F6S1: Actually I, I I would like a radio or I am for listening and for for for for improve listening here in radio and then maybe together have a a part a part movie movie we watch together and then maybe is better we we use this better.

F6S2: for me watching movie and cartoons, cartoons because in it they talk casually. For example when my niece and nephew watch cartoons and I sit behind them and watch the cartoons I, I, I I'm looking for words I can use them that phrases and sentences in in situation that that's that's my problem. I my brain is not clear.

Phase 1: D2

Quotes

F1S3: Well, actually I prefer a storytelling and the suggestion that you made write some story and talking about it and give a summary of it and kind of like this. It's more fun.

F1S1: I think if we want to learn some vocabularies in a list or the grammars as you give us this writer and we look at it and just do some exercise is not beneficial and it is more boring. So if we can learn them through stories or in our conversation, it it is speaking our mind better.

Phase 1: E1

Quotes

F1S3: I personally have so much issues when I'm using present perfect and present and before that had had PP and then. Yeah. And because we rarely use them and when we when we want to say something that we should use this structure. I cannot. Yeah.

F1S2: I agree with uh two others and three others. Yeah, you know, I was always interested in vocabulary. Because of that, I think my answer is grammar.

F2S4: and I think we don't. We don't learn anything about advanced vocabularies. Yeah. And we talk like as a baby in simple words. It's too bad. Yeah.

F2S3: And I think when you're living in a Canada or other country which other people and speak in English and inevitably you you'll learn speaking or listening. But in academic environment you need to have a more cours or more classes for other countries people to have writing and writing and reading skills I think. But for example for our university, (name of school), we have never seen before any courses free courses for students to get improved in for writing skills or reading skill. And I think we need to have and I think there is no need any large budget to perform these classes. But I think it's it's a it's important and play a vital role in improving language skills

F3S1: Um, because in (home city) we learn a lot of academic English, a lot of formal English. But I want to learn more about the English that the English speakers really, really use in their life.

F5S1: Yeah, actually I think in (home country) our most challenges was about that our political weren't practical, just theoretical and I thought that when I come to Canada it there is a big difference. But I didn't actually, I didn't. I don't feel that there is a big difference between (home country) and Canada, honestly speaking. And I think that as you said, learning in learning which comes to actually kind of hobbies and and games and so on, learning which is inside of these items would be much more interesting. For example, what you said about watching movies and the main thing that I actually have kind of I don't like actually to watch movies as English learning is that I think that it's not it couldn't be as enjoyable as I want when it comes to learning. But if we could kind of incorporate learning with games and something which is enjoyable for us, I think it works better. But I maybe it it it's not the answer of question. Since you asked me about the pace of curricula, I could say I don't have any idea about the pace. Maybe it's fast to me here in Canada since I have lots of language barriers and in addition to learn the concept, which is a course and mathematics and so on, I need to try to improve my English. And so it's hard to me and I think the pace is fast.

F5S1: As I told earlier I'm I think that we are taught about writing and reading better, much more than more better than speaking and listening and the skills that I I think that there is a hole and and it's not it's weaker in my skills is listening and speaking.

F6S1: Writing. Writing. Because actually we don't use before in English and is very difficult for me, I, I I I think tourism press reason is is I, I, I study a long time ago English, maybe 25 years. I am graduate 25 years ago. And the second reason is actually I don't use in English before came in Canada is difficult for me is is writing is difficult for me. Yes.

F6S2: For me, speaking. Most of the English classes that I attended focused on grammar, and we don't. We didn't have enough time to speak in class. Most of my teachers when when we wanted to explain the topic or grammars or something like that, for example for how to write essay or something. They speak (national language of home country) and you know, I think speaking is not sufficiently covered. And for writing, as I (student 1) said, I I know how to write essay for Ielts, but for for example assignments for college or for report to my boss or something like that, I I have to improve these skills.

Phase 1: E 2

Quotes

F1S4: I have difficulties understanding different vocabulary on native speakers use in daily conversation.

F1S1: OK, can I ask something? In terms of Vocabulary. I thought a lot of vocabularies, but then I want to talk. I cannot remember them and I don't know how.

F2S1: Uh, you know, I think most of the learning tools or learning stuff in English are passive. So you just have to book or you watch movies and you really do not learn. You know the learning process is so complicated and you cannot just read something or or or watch something and improve your skills. So for me, myself, I could improve my language skills and my confidence level significantly by talking about the things that I like, the things that I want to actually express in myself, expressing my mind. So I went through learning some vocabularies to be able to debate, to talk. So it's how I learn vocabulary and structures.

F2S3: And I think when you're living in a Canada or other country which other people and speak in English and inevitably you you'll learn speaking or listening. But in academic environment you need to have a more cours or more classes for other countries people to have writing and writing and reading skills I think. But for example for our university, (name of school), we have never seen before any courses free courses for students to get improved in for writing skills or reading skill. And I think we need to have and I think there is no need any large budget to perform these classes. But I think it's it's a it's important and play a vital role in improving language skills

F3S1: Um, because in (home city) we learn a lot of academic English, a lot of formal English. But I want to learn more about the English that the English speakers really, really use in their life.

F5S1: Yeah, actually I think in (home country) our most challenges was about that our political weren't practical, just theoretical and I thought that when I come to Canada it there is a big difference. But I didn't actually, I didn't. I don't feel that there is a big difference between (home country) and Canada, honestly speaking. And I think that as you said, learning in learning which comes to actually kind of hobbies and and games and so on, learning which is inside of these items would be much more interesting. For example, what you said about watching movies and the main thing that I actually have kind of I don't like actually to watch movies as English learning is that I think that it's not it couldn't be as enjoyable as I want when it comes to learning. But if we could kind of incorporate learning with games and something which is enjoyable for us, I think it works better. But I maybe it it it's not the answer of question. Since you asked me about the pace of curricula, I could say I don't have any idea about the pace. Maybe it's fast to me here in Canada since I have lots of language barriers and in addition to learn the concept, which is a course and mathematics and so on, I need to try to improve my English. And so it's hard to me and I think the pace is fast.

F5S2: I remember we talked a lot about some topics like traveling, like I mean entertainment, I mean being at the beach, being at the sunset, anything like that. I don't remember talking too much about some topics like I mean more expert topics. Something like when you wanna talk about death, when you are in a in a relationship with a colleague, you wanna be professional at the same time somehow intimate you. I I don't know what tool should I use. When you are in an office, when you are in an academic environment, you don't know how to talk with your professor. You should be intimate, you should be professional. You should be serious. You should... I don't know. I personally don't know. And when it comes to somehow and having a sense of humor, still I don't know how should react to their Are they kidding? Are they serious? Should I laugh or shouldn't I laugh? And this kind of topic is is very confusing for me this kind of situation since I don't know how should react. Is it polite? Is it is impolite? Yeah, that's it.

F5S3: As (Student 2) has said, it's important for me to how to know to communicate with other people in workplace, academic workplace or the other workplace and. I'm I don't have any experience in Canada for a Canadian workplace but I I studied about that something but it's maybe different from our other country our country and it's good to know to learn the about the workplace language and the similar like that.

Phase 1 : E3

Quotes

F2S1: Uh, you know, I think most of the learning tools or learning stuff in English are passive. So you just have to book or you watch movies and you really do not learn. You know the learning process is so complicated and you cannot just read something or or or watch something and improve your skills. So for me, myself, I could improve my language skills and my confidence level significantly by talking about the things that I like, the things that I want to actually express in myself, expressing my mind. So I went through learning some vocabularies to be able to debate, to talk. So it's how I learn vocabulary and structures.

F2S3: And I think when you're living in a Canada or other country which other people and speak in English and inevitably you you'll learn speaking or listening. But in academic environment you need to have a more cours or more classes for other countries people to have writing and writing and reading skills I think. But for example for our university, (name of school), we have never seen before any courses free courses for students to get improved in for writing skills or reading skill. And I think we need to have and I think there is no need any large budget to perform these classes. But I think it's it's a it's important and play a vital role in improving language skills

F2S4: honestly I had several times the practice in English with different teachers. Unfortunately, most of what's the uh the time I had gap between uh this uh different learning issues and um unfortunately I will not in uh exposed to English people, everybody who can talk to me English. You know because of that uh never. I couldn't improve my, uh, skill in English, so I don't know how can I improve it now when I'm here in Canada.

F5S1: Yeah, actually I think in (home country) our most challenges was about that our political weren't practical, just theoretical and I thought that when I come to Canada it there is a big difference. But I didn't actually, I didn't. I don't feel that there is a big difference between (home country) and Canada, honestly speaking. And I think that as you said, learning in learning which comes to actually kind of hobbies and and games and so on, learning which is inside of these items would be much more interesting. For example, what you said about watching movies and the main thing that I actually have kind of I don't like actually to watch movies as English learning is that I think that it's not it couldn't be as enjoyable as I want when it comes to learning. But if we could kind of incorporate learning with games and something which is enjoyable for us, I think it works better. But I maybe it it it's not the answer of question. Since you asked me about the pace of curricula, I could say I don't have any idea about the pace. Maybe it's fast to me here in Canada since I have lots of language barriers and in addition to learn the concept, which is a course and mathematics and so on, I need to try to improve my English. And so it's hard to me and I think the pace is fast.

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F6S1: Actually I actually you're talking you're speaking is very well and but sometimes you're talking very fast. I am understand but I lost some something and because I am I am maybe actually English is 3rd language for me. Sometimes I have a translation for for my mother tongue and I lost talking with you. If I have a problem,

Phase 1 : F1

Quotes

F1S1: As I said, I prefer first. For example, you describe the structure or the use of the workout, and then we practice it through stories or through some context or by games or something which can help us to speaking our minds and we can use it in our the daily conversations and activities.

F1S2: I really don't have any special ideas, but the one thing I remember that's funny to me, it's listening to music.

F1S2: Yeah that's really interesting, when I know what the singer says Uh, and I can better, uh, know about the poem and lyrics.

F2S1: You know, if you provide the content and you know as an assignment, if we go, if, if, if we are all interested in that subject or topic, we can go and read it or watch it and then come here and discuss, discuss it, talk to each other about it. I think I I see it very beneficial.

F2S2: My time. But one day I had a test about my learning style, and my score showed that I'm more visual rather than auditory. So I don't know which kind of practice can be helpful for me, and it can improve my skill. I guess you know better.

F3S1: Um, maybe I like listening podcast. And then, yeah, it's kind of a channel for me to listen more English and then something as well.

F6S2: I think your techniques is good because you let students to participate in the class. You want one of people in class to talk about something and you not push them. But you encourage, encourage people to speak and participate. And I think speaking in English when you when you want to speak English you have to knowledge and you have to be confident and don't be afraid about mistakes. You know, my last teachers, they they they wanted to pick our mistakes and they told us this part is wrong. This part is wrong and it makes me, makes me, makes me anxious to talk for next time to not to make mistakes when I when I want to speak. But in your class, you didn't attention, You didn't, you didn't pay attention how to, how how to speak. Just you want to encourage us to speak and even we make a mistake. And I love that and I love that. That's why I told you I feel more confidence. I feel improvement in my speaking and I'm really happy and really appreciate your help. Shaily I I didn't talk in class before I attended your class in my in my in my college. I prefer to be online and type my answer in chat box instead of be in person in class because then I attend in person I have to talk and have to answer question with talking I... So I prefer to be online but yesterday I I attended in person for first time in this semester in one of my courses and when my instructor asked a question I taught more confidence. Yes, yes, yeah, yeah. And and you know he he told people in people who attended on Zoom. Did you hear hear and people told yes and he told, she explained. She answered the question even better than me that I want to explain the answer. So I really, I really appreciate your help and I love before how to learn and you are really good teacher, you know.

Phase 1: F2

Quotes

F1S4: I also prefer having fun and talking about our daily ex ... daily experiences.

F2S4: Yeah, I agree with you. I think if we have one special content and we have an assignment for doing something for example, I should have listened to some podcast about some special topic and also just watch one short movie about that and after that I should write one writing and just a short writing about that. And after that speaking my mind and has some challenge which works and the in some content and about that special and when we repeat repeat on about many contents about that we can learn them and speak and we can improve ourselves in about that The special content. I think it's sort of helpful.

F4S3: I guess that's something I think a combination of traditional and multimedia works best for me. Yeah like (Student 2) something that just if I have a plan for studying or just improving English that's that would be great. Doesn't matter multimedia game or tradition.

F5S1: Yeah actually I'm not teacher and I I'm not familiar with teaching methods and it's my challenge and that I don't know how to learn English better and but I think that anyways any solution that comes to our daily life, our daily daily communication and force us to speak English as much as possible not only when in when we are in this in a situation that we need to speak in a specific issue with my supervisor and my to the colleagues and so on and bring English in our daily routines would be helpful. I think since my issues, my actually disadvantages are in our daily routines.

F5S1: I tried private classes and so on and when I need to speak just for one person. It's less stressful for me and so on. For example, today and when I tell, when I understood that there are other than you, there are two other people, it was stressful for me. I think that the main issue is that I couldn't, we couldn't speak in public. So being in public, having group games and so on is much more, much better to me actually. I think then being in a private with just one person, there isn't any stress and so on for people like me, which are so stressed and being in public works better. I think this is calming.

F6S1: I think, I think if I, if I, if I write a different sentence in past sentence and present sentence and future sentence every day into writing help me. And actually I don't. I am I am I am correct to understand your question or no? Yeah and maybe maybe I I I told in early I I told you maybe if I if I had if I had in more plans for maybe two a week is better for me.

F6S2: I think your techniques is good because you let students to participate in the class. You want one of people in class to talk about something and you not push them. But you encourage, encourage people to speak and participate. And I think speaking in English when you when you want to speak English you have to knowledge and you have to be confident and don't be afraid about mistakes. You know, my last teachers, they they they wanted to pick our mistakes and they told us this part is wrong. This part is wrong and it makes me, makes me, makes me anxious to talk for next time to not to make mistakes when I when I want to speak. But in your class, you didn't attention, You didn't, you didn't pay attention how to, how how to speak. Just you want to encourage us to speak and even we make a mistake. And I love that and I love that. That's why I told you I feel more confidence. I feel improvement in my speaking and I'm really happy and really appreciate your help. Shaily I I didn't talk in class before I attended your class in my in my in my college. I prefer to be online and type my answer in chat box instead of be in person in class because then I attend in person I have to talk and have to answer question with talking I... So I prefer to be online but yesterday I I attended in person for first time in this semester in one of my courses and when my instructor asked a question I taught more confidence. Yes, yes, yeah, yeah. And and you know he he told people in people who attended on Zoom. Did you hear hear and people told yes and he told, she explained. She answered the question even better than me that I want to explain the answer. So I really, I really appreciate your help and I love before how to learn and you are really good teacher, you know.

Phase 1: F3

Quotes

F1S1: As I said, I prefer first. For example, you describe the structure or the use of the workout, and then we practice it through stories or through some context or by games or something which can help us to speaking our minds and we can use it in our the daily conversations and activities.

think (Student 3) mentioned that she likes games Gamification likes learning through games. That's great. I also like learning through games.

F1S3: That's my favorite. We spent so, so much time reading and doing something that is not fun. So yeah,

F2S1: You know, if you provide the content and you know as an assignment, if we go, if, if, if we are all interested in that subject or topic, we can go and read it or watch it and then come here and discuss, discuss it, talk to each other about it. I think I I see it very beneficial.

F4S3: I guess that's something I think a combination of traditional and multimedia works best for me. Yeah like (Student 2) something that just if I have a plan for studying or just improving English that's that would be great. Doesn't matter multimedia game or tradition.

Phase 1: F4

Quotes

F2S4: Yeah, I agree with you. I think if we have one special content and we have an assignment for doing something for example, I should have listened to some podcast about some special topic and also just watch one short movie about that and after that I should write one writing and just a short writing about that. And after that speaking my mind and has some challenge which works and the in some content and about that special and when we repeat repeat on about many contents about that we can learn them and speak and we can improve ourselves in about that The special content. I think it's sort of helpful.

F3S1: Um, maybe I like listening podcast. And then, yeah, it's kind of a channel for me to listen more English and then something as well.

F4S1: Yes, the last one is so great for me, but because I think the word is changing, I have to change. So social media is so could be so important and even games could be interesting, especially for boys. Yeah

F4S3: I guess that's something I think a combination of traditional and multimedia works best for me. Yeah like (Student 2) something that just if I have a plan for studying or just improving English that's that would be great. Doesn't matter multimedia game or tradition.

F5S3: if your question is about mathematics, I can speak about the methodology for no, it's about language learning. But for example, you know, as you know, students hate from mathematics, hate mathematics and statistics. But I tried to use some software for teaching mathematics and statistics and use apply some application of statistics and mathematics in the class. But you you it's better to ask you about this question. What's your experience about teaching English, English courses in your other for your other students before us and... But I thought you want to use some software, English software for teaching. Or I'm wrong, yeah?

Quotes

F1S2: Too much! um, for example I have some applications already on my phone that are for learning English and I can do everything online, uh even offline. Or, for example, whenever I want to watch a movie, I can do it.

F1S3: Yeah, actually I use AI and Chat GPT a lot, especially when I'm writing emails or applying for a job or something like this. It's actually a game changer for me. Game changer for me. Yeah, and I have a bunch of AI application I'm on my iPhone that I use and use them to correct me. I actually, because when we talk to native speakers, they actually find it really impolite to correct us, you know, but this is something that really helps us with when someone courage us but it's just boring for them. And actually yeah, they think it's impolite to correct us so we never learn how to say something correct. So yeah, I use them at all to correct me.

F2S1: It helps dramatically.

F2S2: It was great for me because before I had IELTS exam I heard to the podcast and watching movies and all of my mind to the language, but especially in some in years and then we wanted to use one dictionary. It was so hard and I ignored the new words and honestly but I translated so easy and also many some I heard it. I listen to the uh, six minute English and it uses some different accents from Chinese or Indian and it's also great because the IELTS exam has something like that.

F3S1: Um, so without technology I think I don't have a chance to explore different English materials in the world. It kind of give me access to different materials and give me more opportunity to learn English in different settings.

F4S1: I think it it has I think 100% role. Between each learning even, we are whole actually help... I can say we're starting even our conversation with technology. This is the first step. After that when you want to learn, you can use everything like ChatGPT. I don't know even electronic books even as I said, I'm into books. I started to read some electronic, electronic books with some specific applications which helped me to as a for instance to underline the important words, topics, subjects, what I want to save. And I think this is a crazy, you know, world we are going to and the everything I think in the near future is actually would be surrounded by technology. So as I said, applications, I don't know electronic books and so

F4S2: For sure it's very important because everything nowadays everything is with you know cell phone, social media and some things like this. Yes, And because of that I think newest way or method is the best because it makes sense Technology.

F4S3: Yeah, I think it's possible that it's, it's more accessible to everyone. and in terms of the, I mean the in terms of its expenses, it's more accessible and it's more, I know I don't remember the word so ... So equitable

F5S1: Yeah, I think it's so important. I don't know how. Which branch of technology do you mean? But all the technology since our our daily life is kind of joint and mixed to technology, technology is something that we we couldn't actually ignore it. So English learning is actually part of our life. So we couldn't separate it from technology. And I think as much as we can incorporate technology to our learning in all fields and English and also it could be beneficial.

F5S2; Yeah, for me. And also like (Student 1) said, I'm a fan of technology. I don't like to use pen and notebooks for learning English anymore. I like to type everything. I like everything to be in my phone, using some applications to learn words every day and practicing them. I like to use my laptop to read and write and and I don't like to, I mean writing and my professor just corrected on pen and everything. I'd like to have everything in my laptop and my phone, and everything is so accessible in that way. So yeah, I can say that it's significantly important for me to be in touch with technology and to learn through technology.

F5S3: Yeah, technology is more important. So important in our life and teaching is not separated to our life

F6S1: Actually I think Internet is very good for me for learning more vocabulary for and the application is very good for me. For example you put a application into Telegram. I used it, it's fun and it's good a pass time. I I have a experience for learning in English application is good very good. For me. Yes, I'm so happy.

F6S1: Yeah, yeah it's good. It's good. For example, for, for “get off” phrases, because is very good application because a show and the learning with the picture and a movie is is a small movie and is very good. For, yes,

Phase 1: G2

Quotes

F2S3: I have to I would rather uh to uh, learning to learn English by reading the book? Watch movies. I I don't think so. At the watching movie is a is uh technology or not because the television was for yeah

uh, I think the technology in this question uh, to me I think UH it's mobile app or YouTube but I think the YouTube it's very helpful. You can watch any series, any uh documentary series and uh, it's, it's, it's, it is very helpful. But I would rather to read grammar book and Collins and the grammar books over and over again compared to the UM mobile app or another application.

F2S4: Um if you had electronic uh book. Uh like um some some equipment like paper, ebook. And I already had one of them. But after one year I I I get a board and board to use that one I prefer to read book.

Phase 1: G3

Quotes

F6S2:"Yeah, for me it's really important. For example, when I want to write an e-mail or and correct my correct sentences, I use chat GPT and sometimes I I speak I I practice speaking with captivity and I think it's really useful and healthy. And the game that you shared us, yeah, it's helpful, you know, it's fun and you learn about more, learn about grammar or phrases or something like that. It's more and it's more efficiently to just read in the book."

F6S1: And actually I am saying for my I I think I think this this application for my friend in he he live in (country omitted) I I use them for him.

Phase 1: H3

Quotes

F3S1: Um, maybe I will. I I would. I prefer to have the feedback. Um, I I want like I prefer like a specific feedback like, oh, you didn't express your idea well in this sentence. And any alternative expression can I use.

F4S1: it could be on as we are holding our classes actually in some kinds of applications it could be online but how specifically I can get it really I have no idea. These are so difficult questions. Nobody thinks at all in in their life.

F5S2: Well, I don't like to be cut out during my in the middle of my speaking. I'd rather to because it just reduced my level of confidence. So that means that I'm not good. I just feel something like that. So after finishing, I'd be happy to hear feedbacks. And if it's about after class activities, I don't know if still if you gonna give us feedback on Telegram or something like at all times?

F5S3: Yeah, negative feedback and positive is good for me because it it affect on my progress and I have a good experience about the negative feedback. In my last, yeah, last English course, our teacher spend for example 10 minutes per week for us for giving us the our, his feedback. It was good.

Phase 1: H4

Quotes

F2S3: "honestly I'm I'm disagree because um I remember when I arrived Canada. I wanna book a hotel but the reservation has a had a bad behavior with me and he corrected. He corrected me so many times but I lose my confidence and I think it's not very good at the first time. You you came from the another country to get feedback every day."

F4S1: As we are going to hold our classes I think once a week, so the feedback could be as the same as the numbers of our classes.

F6S1: How often? A feedback? I I prefer, I I I prefer each week. Each week I assignment myself for last for for every every every week for last week I I I would like assignment in Marcel for for topic in every every every session in English, English. I think monthly or after two classes if I received feedback it's helpful.

Phase 1: H5

Quotes

F5S3: Yeah, negative feedback and positive is good for me because it it affect on my progress and I have a good experience about the negative feedback. In my last, yeah, last English course, our teacher spend for example 10 minutes per week for us for giving us the our, his feedback. It was good.

F4S2: I don't know what's the meaning of critical, but I want to, you know, improving this language and I need to be good because of living here.

F4S1: yes, even I can say this is my Actually, I can say it would be really great that whenever I want to do any of my skills, like for instance doing the exercises, I don't know everything. Any feedback could be really important for me because they're going to help me to. Am I in the right situation? Am I right way or not? This is actually going to help me or not.

Phase 1 : I3

F2S1: Actually, I see a lot of video clips in Facebook. Uh, and you know they learn English in situations. For example, there is a girl who is a for example in school and is talking about any specific situation. So you can learn the related vocabularies and the structures there as well. So that's it.

F2S3: Yes, I think that all of the resources can be held every yes can, can, yes can be helpful up to the certain level but we don't need to mixture all of the books, video and other resources. I think you can have just one resources, but you can read it uh in in more details.

F3S1: Hmm, maybe for me I hmm. Maybe it it is good to for me to have some materials about, uh what common phases or words that people are using in their daily life.

F5S1: Uhm if you give us kind of routine tasks and so on to practice daily, kind of forcing us to practice. I think that I'm the person that if there isn't any task to me, I don't do anything, you know, I'm I'm the person, it's my personality.

F5S2: Yeah. As (Student 1) said I like homeworks too. I like to have for homework and about other resources. If for example if you use any special application or something that that will be good to suggest us to use that tool to learn more or practice more. If you know any podcast that will help us more, yeah, that kind of things especially or some series, movies. Any suggestion.

F6S2: I think I want to tell the group chat but you told we have already we had and I the the videos that you shared. I think it's helpful and I think the the daily expression. The daily expression that Canadian or American people use in daily speaking, I think it's helpful to to speak more casually. You know, I speak academically. So when, when, when I, when I want to speak with my classmate of my friends. It's it's weird, you know, It's really weird that it's really, really formal. You know, I wanted to speak informal, so. So I think this expression, this phrases, it's helpful if, for example, every night or every day, if it's possible. I appreciate you share us sentences or, you know, but it's a social learning app, which means you are in charge of your own learning.

F2S1: Actually, I see a lot of video clips in Facebook. Uh, and you know they learn English in situations. For example, there is a girl who is a for example in school and is talking about any specific situation. So you can learn the related vocabularies and the structures there as well. So that's it.

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F5S2: Yeah. As (Student 1) said I like homeworks too. I like to have for homework and about other resources. If for example if you use any special application or something that that will be good to suggest us to use that tool to learn more or practice more. If you know any podcast that will help us more, yeah, that kind of things especially or some series, movies. Any suggestion.

Phase 1: Reading and writing

F4S3: "Writing is the most enjoyable, and speaking and listening the most challenging."

F5S1: "Writing, writing, anything is enjoyable and good to me, but I think that the main issue is speaking in front of lots of people, which is stressful. And yeah, the main issue is speaking in public to me."

F5S2: "I I find grammar challenging for me. I still struggle with learning different tenses and using them. I like learning English words is enjoyable for me. Mostly I like listening. Listening part is I like it. I I it's not engaging, but it's still. I enjoy listening to English stories, podcasts, everything. So I find grammar part most challenging."

Phase 1: Structured Courses

F1S2: "It's a good question. I say 50%."

F2S1: "Actually, you know, just a period of time in my life, I was forced to learn English for a certain reason, for certain goal. That was taking the IELTS exam. And after that I really didn't see myself in a path of learning, you know, I just, I was just learning unconsciously. I wasn't pursuing learning new things."

F5S1: "Honestly speaking, I don't think I had any autonomy and I I just try to do what, for example, the teacher asked us and I even didn't think about my autonomy that I could I could how kind of control on them and so on."

F5S2: "I went to English classes a lot in my life, but they weren't very helpful and beneficial. But when I started to, I mean when I seriously learned English was the time that I started watching movies. So that was something that I had I mean the complete control over it myself."

F6S2: "Yeah, before this class. Now, the when we when I attended in class in institute in my hometown they gave us books and they followed rules and as I said before they focus on grammars and academic materials. They didn't focus on speaking, speaking, speaking and talking. Talking about topic no without any frame. You know they gave us frame how to answer the questions and they want to ask they want they want to answer based on their frame."

Phase 1: Goal setting and planning

F2S4: "I think it's my duty to do that and I should continue that and it's so necessary and essential about my future and my work future. I'm in university and university but I live it. I don't know why but I am sometimes one of my friends and told me if you live in an English language country you are improving and by increasing your your English increasing automatic. What I I saw some person and that they don't have a special plan and leave it alone and they didn't have any improvement."

F2S3: "When I was living in [nationality omitted], I had a lot of exercises to do that and because we are forcing to take in the IELTS exam but after immigration and removing these pressure and also we didn't we don't have any free time to make it make a plan to continue learning English. But recently I write it. I write it. I have written a hectic schedule to to get better in English. I watched several movies at every night and every week I had a plan to at least five hours in a week to read a book. But recently I have a plan to get better. But the first year all of the activity, all of the job it what they are, they are, they were new and we didn't have any free time to get improved in English. But right now is is get better."

Phase 1: Control and Satisfaction

F4S2: "It's really hard to explain, but I think when I had a private class I had enough control on my studying routine. But I didn't have a lot of experience in institute and somewhere like this."

F5S2: "I went to English classes a lot in my life, but they weren't very helpful and beneficial. But when I started to, I mean when I seriously learned English was the time that I started watching movies. So that was something that I had I mean the complete control over it myself. I chose the movie I watch any time that I wanted that. That was convenience for me and also listening to podcast which I did it, I mean more than maybe 10 years and so and when I studied for my IELTS exam which was a kind of self study so I had control over everything and that was a pretty great experience for me. I chose whatever book I wanted to study and I did it and I just asked for some teachers to correct my speaking and my writing. So that was it. And yeah, that was a great experience."

Phase 1: Sufficient representation

F2S2: "Yeah, yeah, because most of our discussion was about our society and or culture."

F2S2: "Yeah. Because they were in [home country] and the examples and um, the events that we we talked about that was about our country."

F3S1: "I think English takes an important role in in my society, in [home city]. In [home city] people, they really get used to, um, speak English and our native language together they kind of like mix up two languages in our daily life. So learning English, I feel like it's kind of a main trend in [home city]. So it makes me feel I kind of I'm fitting into society and also follow the trend in the world."

Phase 1: insufficient representation

F1S1: "Something that I realized about our [Nationality Omitted] culture is that we thank a lot of people and it's weird to others."

F2S3: "I agree."

R: "Not represented well, I assume."

F2S3: "Yeah. Not good representative. Yeah. Yes, yeah."

F5S1: "As [Student 2] told also earlier, one of our main issues is cultural conflicts and so on after immigration. We are not living in our home country and there are so many cultural actually maybe abuses for us. I I mean I as a subject, as a person that communicates with Canadian people, there are so many cultural conflicts and it's maybe stressful to me to communicate with them. I'm not sure if I'm in the true way that you ask. Yeah. I think that it's so important and it's a big challenge to me. And learning English just when you live in your home country is much more different. When you are in an English country, you know people who are in this country and communicating with them is much more different."

F6S2: "No. So far. Previously, previously, because I attended English class in my hometown. We talk about our culture, our experience in our, in our country, in English, just in English. Just talk about our experience in English. And we talk about cultural, linguistic and identity, our identity. And sometimes, sometimes our teachers talk about other, other cultures, talk about differences between our culture and the English language. English language country, yeah, yeah, the Western, Western country and talk about the differences. But we, we almost talk about our culture just in English."

Phase 1: Impacts on identity

F1S2: "I think it represents our culture and for blah blah and because the goal of learning English is to communicate with others. And when we communicate in every language, we connect with people and we show our cultures, our thoughts and everything else."

F1S2: "In another view, I was thinking about our culture, in our [Nationality Omitted] culture. Learning English nowadays is very important and most of the parents and most of the families care about their children's learning English. But for example, I had traveled to Turkey and I saw that in their culture, learning English is not important too much and they don't care about that."

F1S4: "The young generation just thinks about immigration."

F2S2: "I think it's better if some concepts are similar and close to my culture. I can understand them better."

F2S3: "Yes, and I always read any sign in the street. It helps me to get to know the Canadian culture and it is not frustrating. I think it's good."

F5S2: "When I moved to Canada, I expected to be humiliated a lot. But it didn't happen. And I didn't experience any disrespect. I'm so happy about that. Even when I know that I'm talking wrong. I mean, my grammar is not correct. I don't use the words correctly. I don't get any bad feedbacks. I didn't experience anything that just gave me the feeling ashamed of myself. All the people that I communicate with were very open and very broad-minded. I can say that I didn't experience something awful."

Phase 1: Importance of technology

F1S1: "Uh, I think it's very important because actions, we can, uh learn a lot, especially at the daily expression that they use in their conversations. And so, uh it is one of the critical issues that we all [Nationalities Omitted] have because it can help us a lot to learn more and more and to be more native."

F1S3: "Yeah, it's actually very, very important and very useful. I guess if we can go for a visit or we can just go for a hike and it's very it's postponed and yeah, different and I guess we learn a lot."

F1S2: "Exactly. It's an opportunity to use the words and vocabularies. We learned it before and we don't know how to use it."

F1S1: "Yeah, it is very important because it gives past the chance to talk in real situations we've made through speakers and those who know English better than us."

F1S4: "It's very important, about finding jobs and such..."

F2S1: "It's a practice, so it is practical."

F2S3: "Yes, it's very helpful because it's kind of the habit, it's kind of the enjoyable activity. And during this, this kind of classes, you'll learn English. It's not pressure on you, it's not forces, it's no assignment. Any class schedule it's, it's very helpful."

F2S2: "I think it can make our learning sound deeper and it can improve it."

F3S1: "I think it's kind of important for me because I want to be a teacher in Canada. That makes their English ability in the language ability important, so it's good for me to have more opportunity to practice it and communicate with others."

F3S1: "Maybe it's not super important for me because you know, the technology is kind of advanced nowadays. There's a lot of AI and YouTube videos, so but of course it is good to have someone that I can count on when I have something that I'm not familiar with."

F4S1: "Oh, I see. This is like a mandatory option because if you are a person in this country to improve you have to be comfortable speaking English. So this learning could be, as I said before, survival not option, survival. Actually think that you have to do not just in the classroom, because as my friend said, when you are in an academic area to explore something, I don't know, I'm more comfortable as well. But when I want to speak or communicate with people, I don't know how comes in my mind. So I think this is really important."

F4S2: "I think living in this country is an opportunity, is an opportunity for us to improve our English level because we have to speak, we have to understand and all of them is a pressure to us under us and even your class or everything can I mean help of for example, shopping and learning new words all of them. I mean it's an opportunity and opportunity actually."

F4S3: "I believe in, I mean no learning language in real situation like participating in social events or I know having some friends or meeting with some international friends help us a lot. And for example I what I learned is the first thing that I remember that I learned is when it comes to speaking. I try to, you know, I think very hard to find very complicated complex words, but I found that they use the the, the simple word, the simple verbs like get, take, they just made sentence and using these two simple words that I'm not really honest, I didn't learn it in my previous classes, English classes."

F5S1: "It's so beneficial to me and I think that the problem and the main challenge here is somehow is to somehow incorporate English in our daily social events and exchange and so on. You know it's it's so important."

F5S2: "Yeah, it's very important. I wanna use this class or any other platforms for learning English to be able to use them outside the class, not in class to be able to communicate in the society with the Canadian community, to be engaged in their in their, I mean events or even a small dialogue with them."

F5S3: "So important to have the opportunity to practice our English skills outside of the classroom, but I try to apply for general job or more community for having more communication with other people."

F6S2: "It's of course it is important. Then, then, then I deal with, deal with difficulties in some situation. I don't have any people to deal, to rely on to speak and give, give them, give, give suggestion, give suggestion about to solve that problem or deal with this that situation. And of course as I told you before, I have difficulties to write a cover letter. I wrote my resume and I show and I gave them to different people to look at them and gave me a suggestion to improve. But for cover letter I have difficulties so I'm really appreciate to that you told me I can help you to write it. I think it's if it's possible if both people have a time in a specific time and set the time, it's helpful."

Phase 1: Teaching methods

F1S3: "Yeah. I found it very useful that you started to share your day with us, you know, then the expression that you use, the names, the vocabulary that you use was different from what we have learned in classrooms, you know? And I find it really interesting. I hope we can have more."

F1S1: "The idioms, which you gave us through seamless platform Uh, I can... I can sleep... snug as a bug... in a rug. this speaks in my mind. You know, yes.. yes..."

F1S4: "If we can share our opinions and you can correct our mistakes?"

F4S1: "I also like this session. I think this is the most tough situation I have ever had. Even talk really even tougher than my IELTS speaking test. I don't know why, because you know when the when the questions are related to a psychological topic. Two sides of your minds are working. One side is related to your own mother tongue, is, you know, finding the answer, and in the meanwhile the other side is translating to other language. But about the specific, as you said the just excuse me about the specific things. I think that the meaning of the question was for instance, can I say face to face classes or Yes, this is related. Yeah, I think face to face classes, face to face speaking with my peers. It could be the, the, the really useful because it's pointing my weaknesses which I have to be conscious because working on your powers is not going to help you to improve as I did before, for instance readings or something else. I think it could be."

Phase 1: Support systems

F1S1: "The idioms, which you gave us through seamless platform Uh, I can... I can sleep... snug as a bug... in a rug. this speaks in my mind. You know, yes.. yes..."

F5S1: "What you are earlier and options that you told about like watching movies, listening podcasts, being in the classes, the classes, English classes, having more communication with native people, even what narcissist told, being in even general work that you have communication with native people, I think all of them could be beneficial."

F5S2: "For me to have the opportunity to speak is the most important one and receiving feedbacks after that because I can watch movies. I can. I'm, I mean, I'm, I'm doing them right now listening to podcast. But the only thing I, I still didn't find any application to use that is to speak and receive feedbacks. I'm trying to use chat GPP, It's still not working. Yeah So for me, that's the most important."

F5S3: "Yeah. For me, communication with native people is more important for improving the language, especially for speaking and listening."

Phase 1: Specific skills development

F1S2: "Talking. Talking. Talking."

F1S2: "Yes, different conversation. Indeed. More conversation. Specially, interesting topics."

F1S4: "Like for example start talking about politics and religion and stuff like that. So we can keep talking about it."

F3S1: "Um, I don't. I don't know specifically, but I maybe I just need more chances or more chances more to to practice English."

F5S2: "For me to have the opportunity to speak is the most important one and receiving feedbacks after that because I can watch movies. I can. I'm, I mean, I'm, I'm doing them right now listening to podcast. But the only thing I, I still didn't find any application to use that is to speak and receive feedbacks. I'm trying to use chat GPP, It's still not working. Yeah So for me, that's the most important."

Phase 1: Time Constraints

F1S1: "Um, like we have always have a lot of motivations, but the important part is that we don't have enough time to, I mean to expand on it or yeah, if we can, I mean we can be in real situations."

F2S1: "I think these two are the main ones. Lack of time and lack of motivation. Lack of encouragement. Yeah."

F2S3: "I think the most, um, obstacles is lack of times and um, yeah, just this one lack of time. Because we are. Because we have lots of the resources."

F3S1: "Main barriers... maybe I just lack time, that got the time of speaking English."

F5S1: "I think the lack of time is not for me, since I believe that when you have much, when you have so many things to do, you can actually kinda have a more accurate schedule to do them. So I think that maybe I'm lazy and doing things that I'm didn't face them earlier and learning something new is something that scared me. And maybe language barriers and motivation is lack of motivation is my issue. If I could somehow motivate myself and there are some ways and solutions to improve my motivation, it could work for me."

Phase 1: Motivation issues

F4S1: "I think the most important part was related to actually my motivation, because when you start learning English, the first part is going so fast. You're for instance, learning the basic grammars, the basic verbs, and you find yourself improving, but then you actually face the second part of learning English. I think more than 70% of people quit and just, you know, I think the motivation is really important and sometimes lack of, you know, a kind of environment to speak with people to, as you said, say your feelings, your experience in the routine life. Because it's really interesting to learn English. In the meanwhile, for instance, you are speaking with your friends or sharing your feelings. And this is what I experienced when I started the studying in the university and it's really cool."

F4S3: "The motivation matters a lot to me. I remember when I was preparing for IELTS exam, I learned a lot of words. But now after a couple of years I actually I know compared to that time, I don't know that much. And yeah, it's something that I think I need to register for another exam. Maybe that helps me to improve my English for when, for example, when I have to give a lecture or presentation, I spend enough time to practice, but again, I quit and I give up. I mean by, I don't know, waiting for another time, that's to have another motivation. Yeah, I think the motivation is very important to me."

Phase 1: personal, Emotional and sociocultural issues

F2S2: "Fear."

F2S3: "Yes, I agree with (Student 2) because sometimes I wanna talk to other people but I am scared because if I speak they will know my language is still not good. But sometimes I prefer to take a seat separating from others and sometimes they judge me. Oh, he (name omitted) is an introverted person. But no, I'm not introverted. I am scared to make a communication with others."

F2S3: "Yes, it sure. And sometimes I, um, I wanna, I wanna uh, um, I want to remove any shyness. Uh, I don't. I try to, I try to not be a shy person. And I want to make a communication with others. And when I am in an environment with lots of people, I prefer to talk to (people with the same language) compared to the others."

F4S2: "You know, I want to say something. I'm ADHD and the biggest challenge for me is my concentration. You know, I can't focus on your question or everything for long time. After a short time, I get tired and I have to, you know, repeat that and it's really hard for me."

F5S2: "Yeah, for me, I have time, I have motivation, maybe I don't have any English friends, as many as I should do. And the important thing is that I don't try to make friends with them, I try to find (same nationality) friends. That's easier for me. So I don't know if it's social culture or not, but if I had more English language friends, I guess I could have improved my English sooner and better."

F5S3: "Yeah, OK for me the most challenges for me is self-confidence. I don't have any self-confidence but I thought it's because of my background. I didn't attend any English class when I was in (home country). But self-confidence is I have time, more time and I don't have any motivation, but because of my self-confidence, I try to improve my self-confidence. But it depends on my language."

Phase 1: Observable Improvement

F1S3: "I don't have, but I am, and usually I have a meeting with my supervisors and other group members and so yes, I am. I realize that I'm getting better and better in my meetings, but no, not formal measurement. Yeah, OK."

F1S2: "I agree with the others' opinions, but me also I want to add something else I leave to my self-confidential. Uh and when uh I'm self-confident I can talk better and the reverse. When I'm more professional in talking English and others in grammar vocabulary, I'm more self-confident."

F2S1: "It is obvious, you know. I compare my speaking fluency to when I came here. You know so that's my feedback to myself and others' feedback to myself. So I had a lot of friends when I came here because I'm a social guy and I'm so talkative. I'm outgoing. So I talked to a lot of friends and after a while they said OH, you're getting improved so fast. And you know it was it. It was where I saw that yeah, I'm getting improved so fast."

F2S3: "Yeah, absolutely. We can get feedback from the faces of the people. At first, when I was talking with Canadian people, they would ask, 'What are you saying? What do you want?' But after two years it's gotten better. I understand. I got you what you say and yes, you can get feedback from a person's face."

F2S2: "I measure how much I am comfortable talking to you. And after that it's better feedback for me."

F3S1: "Maybe when I really can express myself and I don't need to think for expressions, I don't need to take a lot of time to think about what phrases I should use. And maybe when I can freely express myself, it means I am getting better in English."

F4S1: "This is so clear when you put yourself in the situation, for instance, in the bank or some general spaces you can't find yourself improving. For instance, the speed of your speaking, the context you have got from listening to other speakers."

F4S3: "Yeah. I think it's something that you feel. I mean, during your daily conversation with your, I don't know, other students or colleagues, you can understand. For example, when I, you know, talking to a friend, I mean, I can recognize an idiom that I, for example, just recently learned from watching a movie. So it means that. OK. I am making some progress, but I don't have any regular, I don't know, typical way."

F5S1: "Yeah, the criteria, the key factor that I'm using to evaluate myself is fluency in speaking. In real time. Fluency in speaking. When I suddenly face someone or some situation that I need to speak English without thinking earlier, I think it's the measure that I could say if I could do that and if I could use different new words, new grammar, and so on. Don't just stick to the simple words, simple grammar, and so on. Yeah, speaking better is something that I could measure myself with."

F5S2: "For me when I am able to use some complex sentences in my speaking. That means that yeah, I improved. When I am talking to someone and I don't hesitate, I'm not hesitant to think, OK, which words should I use? That means that yeah, my English has improved and I don't. I mean, my mind doesn't go blank for choosing a word, for remembering a word. That means that. Yeah, my English has improved."

F5S3: "For me, whenever I speak confidently and without a stress. Yeah."