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LANGUAGE LEARNING IN THE DIGITAL AGE: A STUDY OF STUDENT ENGAGEMENT AND CULTURAL CONTEXTS IN ENGLISH EDUCATION

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ABSTRACT

The rapid digitization of education has significantly reshaped English language learning, integrating digital tools into both instruction and learner participation. Limited research exists on how student engagement in digital learning varies across cultural contexts. The study investigates how digital platforms influence behavioral, emotional, and cognitive engagement among English learners from collectivist and individualist cultures. A mixed-methods approach was employed, involving 300 secondary and tertiary English learners from diverse cultural backgrounds. Data were collected using standardized questionnaires, semi-structured interviews, and non-participant virtual classroom observations. Quantitative data were analyzed using descriptive statistics, t-tests, and ANOVA, while qualitative data were examined through thematic analysis. The findings revealed that students from collectivist cultures exhibited higher levels of engagement across all dimensions, especially in synchronous and collaborative environments. Platforms like Zoom and Moodle were more effective in promoting engagement than gamified applications like Duolingo, which yielded lower emotional and behavioral involvement. Engagement patterns were significantly shaped by cultural factors such as group orientation, authority perception, and communication styles. The study concludes that culturally responsive pedagogy and adaptable digital platforms are essential for maximizing learner engagement. Teachers should align instructional strategies with cultural expectations, and edtech developers should design flexible tools that accommodate diverse engagement styles. Future research should explore the long-term effects of digital engagement and the potential of emerging technologies like virtual reality (VR) and artificial intelligence (AI) to enrich culturally inclusive language education.

KEYWORDS: Cross-cultural pedagogy; Digital language learning; Educational technology; English education; Student engagement.

1. INTRODUCTION

The evolution of language learning in recent decades has been intricately shaped by rapid technological advancements. The traditional education of the English language has been changed through the implementation of digital technology, as it proposes new tools, platforms, and environments that promote novel types of engagement, collaboration, and autonomy among learners (Dressman et al., 2023). English language teaching (ELT) is no longer confined to face to face learning and print media, and through the use of digital technology in the form of video conferencing, mobile applications, online learning management systems and collaboration tools, ELT has opened up vast horizons to both the student and the teacher (Guth & Helm, 2010; Chu et al., 2011).

These technological interventions have restructured the paradigms of learner involvement, communication, and feedback. Such digital tools as Duolingo, Moodle, and Socrative have been proven to be potentially useful in vocabulary building, grammar training, and collaborative learning (Awedh et al., 2015; Solmaz, 2024). Real-time communication with synchronous communication technology (Zoom) has promoted affective and cognitive levels of engagement in students (Colvin et al., 2024). The combination of the tools has further made autonomous and learner-driven practices more feasible, especially in adolescents and young adults.

Although digital language learning (DLL) has considerable affordances, it creates some issues, particularly when learners with different cultural backgrounds are involved in technology-mediated learning. Cultural norms affect the expectations of students, interaction patterns, perception of authority, and the styles of engagement (Hossain, 2024; Kramsch & Widdowson, 1998). The collectivist learners might appreciate working in groups and teacher-directed systems, whereas individualist learners might prefer independence and critical self-analysis (Byram et al., 2002). These sociocultural foundations are particularly important when the students with diverse cultural backgrounds work with standardized digital tools that are developed without cultural flexibility (Hu & McGrath, 2011; Wang & Chik, 2022).

The global environment of English teaching is getting more diversified, which creates a necessity to study the interaction between digital technologies and cultural conventions to affect student participation. Learning a language is not only a

cognitive task but a social and cultural activity, which depends on the worldview of learners, their ways of communication, and group interactions (Chamberlin-Quinlisk, 2012; ODowd, 2018). These dynamics are crucial in the motivation and enrolment of students in the digital learning environment (Lanvers & Coleman, 2017; Leu et al., 2015).

Although the use of digital platforms in the learning of the English language is widely spread, there is still a gap in the understanding of how cultural contexts influence students in the digital learning space. The existing studies tend to separate the influence of technology and sociocultural aspects that define the learning behavior, which results in the generalization of pedagogical approaches that might not be effective in a wide range of students (Li & Lan, 2022; Solmaz, 2024). Numerous online applications and platforms applied worldwide are based on the one-size-fits-all design, which frequently does not suit the peculiarities of preferences, communication, and collaboration patterns in different cultural environments (Parrish, 2025; Trichopoulos et al., 2023).

Much of the existing scholarship tends to focus on either the technological affordances of digital learning or the psychological aspects of engagement, with limited attention to the intersection of cultural norms and technological mediation (Haq, 2023; Hajizadeh et al., 2024). Consequently, there exists a research gap in understanding how cultural values influence behavioral, emotional, and cognitive engagement within digital English learning ecosystems. This gap impedes the development of inclusive and responsive educational technologies that cater to diverse learner needs.

The study aims to examine how cultural contexts, specifically collectivist and individualist orientations, influence student engagement in digital English language education. The scope is limited to secondary and tertiary-level students engaged in online or blended learning environments using digital platforms such as Moodle, Duolingo, Zoom, and other virtual tools commonly adopted in educational settings. The focus on analyzing three dimensions of student engagement: behavioral (participation, attendance, and activity completion), emotional (interest, motivation, and enjoyment), and cognitive (strategy use, metacognition, and effort).

While the research adopts a mixed-methods approach to provide both quantitative and qualitative insights, it does not seek to measure language proficiency gains or academic outcomes directly. Instead, it concentrates on patterns and

indicators of engagement shaped by cultural expectations and digital experiences. The study is also limited in terms of geography since the study population is made up of individuals in a few nations that represent collectivist and individualist cultural paradigms. Therefore, the results cannot be generalized universally but can provide useful guidelines to comparative and contextual pedagogical activities.

The other constraint is related to inconsistency in digital infrastructure and accessibility in different regions. The variation in internet stability, devices, and digital literacy of teachers can also affect the experience and participation of the students, which is beyond the main focus of cultural influence under study (Astari, n.d.; MCCulloch, 2019). Cultural classification (collectivist vs. individualist) can be a valuable analytical tool, but it might simplify the cross-cutting and multiply layered cultural identities that students inhabit in more and more globalized classrooms.

The contribution of the study in this respect is that it tries to fill the conceptual and empirical gap between technology-enhanced language learning and cross-cultural pedagogy. It is important to know how students with varying cultural orientations interact with digital tools, as global classrooms are increasingly becoming culturally diverse and dependent on digital technologies. The study is expected to notify the educators, policymakers, and edtech developers about the culturally responsive pedagogical practices and technology design by analyzing the engagement patterns in different cultural contexts (Sundqvist & Sylven, 2016; Zeng, 2018).

To teachers, the results can help them adopt teaching methods to meet the expectations of the students and their learning styles, hence increasing their participation, motivation, and retention. To educational technology designers, the study can provide an insight into the creation of tools that can be tailored to different cultural values and engagement styles of tools that are flexible, adaptable, and inclusive (Guth & Helm, 2010; Troussas et al., 2020).

The work can be used to inform a larger body of knowledge regarding student engagement in virtual settings, which is an increasingly relevant issue in the post-pandemic educational environment where hybrid and remote learning emerge as a long-lasting educational trend (Colvin et al., 2024; Eslit, 2024). It also expands the body of literature on intercultural communication, language acquisition, and digital

literacy by incorporating the views that are usually considered separately.

1.1. Research Objectives

The study is guided by the following research objectives:

- To investigate the impact of digital platforms on student engagement (behavioral, emotional, and cognitive) in English language learning environments.
- To compare engagement patterns between students from collectivist and individualist cultures in digital English education.
- To explore how cultural factors, influence the design and effectiveness of digital language learning platforms.

2. METHOD

The study was informed by a mixed-methods design that aimed to investigate the effect of cultural contexts on student engagement in digital English language learning. Based on a sociocultural perspective, the study considered engagement as a culturally-mediated construct in terms of how students behaved, felt, and thought in reaction to digital teaching. The research methodology was to establish the interaction of learners in collectivist and individualistic societies with educational technologies and how their interaction patterns with educational technologies can be related to the larger cultural discourses regarding learning, communication, and autonomy.

2.1. Participants

The participants included 300 learners of the English language in secondary and tertiary schools in 6 countries. The first half of the participants belonged to collectivist cultures (China, Indonesia, India), and the second one to individualist cultures (United States, UK, Australia). The age of the participants was 15-24 years, and the gender and academic representation were even.

To participate, learners needed at least six months of experience using digital platforms such as Moodle, Duolingo, or Zoom. Cultural orientation was determined through self-reporting and country background. Ethical approval was secured, and all participants provided informed consent. They were assured of confidentiality and the right to withdraw at any stage.

2.2. Procedure

Data were collected over four months using three primary methods: a survey, semi-structured interviews, and virtual classroom observations.

All 300 participants completed a Student Engagement Questionnaire (SEQ), distributed online and available in English and relevant bilingual versions. Following the survey, 40 participants (20 from each cultural group) were selected for Zoom-based interviews lasting 45–60 minutes. These explored learners' emotional, behavioral, and cognitive experiences with digital English learning about their cultural backgrounds.

The 12 classroom observations were conducted across various digital platforms (Zoom, Google Meet, Moodle), documenting engagement behaviors like interaction, responsiveness, and task participation. Field notes focused on patterns of collaboration and instructor-student dynamics.

2.3. Instrument

Three tools supported data collection:

- Student Engagement Questionnaire (SEQ):
A 27-item Likert-scale instrument assessing behavioral, emotional, and cognitive engagement. It demonstrated strong internal consistency ($\alpha = 0.79-0.87$).
- Interview Protocol:
Included open-ended prompts like:
"How does your cultural background affect your learning online?"
"Describe a digital class experience that stood out to you."
- Observation Checklist:
Used to track indicators such as frequency of participation, use of chat, peer collaboration, and attentiveness during live sessions.

2.4. Data analysis

Quantitative data were analyzed using SPSS (v22). Descriptive statistics summarized engagement scores, while t-tests and ANOVA explored differences between cultural groups. A significance level of $p < .05$ was applied. Interview and

observation data were thematically analyzed using Braun and Clarke's six-phase model. Transcripts were coded in NVivo (v14), and key themes were derived around cultural learning norms, platform responsiveness, and engagement expression. Triangulation across methods ensured credibility, and interpretive memos addressed reflexivity and cultural sensitivity throughout the analysis process.

3. RESULTS

The mixed-methods analysis revealed three central themes that capture the cultural dynamics of student engagement in digital English learning: Engagement Orientations, Cultural Narratives in Digital Contexts, and Spectrum of Learner Participation. These themes were shaped by learners' cultural orientations, communication expectations, and experiences with digital platforms. The numerical tables below represent thematic distributions, comparative group behaviors, and participant-specific insights.

3.1. Engagement Orientations

Table 1 presents the frequency of engagement subthemes reported by collectivist and individualist learners. Learners from collectivist cultures showed a stronger inclination toward collaborative learning (135 mentions) and emotional investment (127 mentions), reflecting their preference for group interaction and affective engagement in digital environments. Individualist learners emphasized autonomy preference more frequently (112 mentions), suggesting a stronger alignment with self-directed and flexible learning approaches. These patterns indicated that cultural orientation influenced how students engaged with online English learning, shaping their interaction with peers, instructors, and digital tools based on their social learning preferences and motivational frameworks.

Table 1: Frequency of Engagement Themes by Cultural Group

Subtheme	Collectivist (n=150)	Individualist (n=150)	Total Mentions
Collaborative learning	135	89	224
Autonomy preference	58	112	170
Emotional investment	127	96	223

"I like group discussions; I learn better when I talk it out with classmates." – P102.

"I prefer to finish things on my own. Less waiting, more control." – P147

The data suggest that collectivist students experienced greater emotional resonance when learning involved synchronous group tasks, whereas

individualist students engaged better with flexible, self-paced tasks.

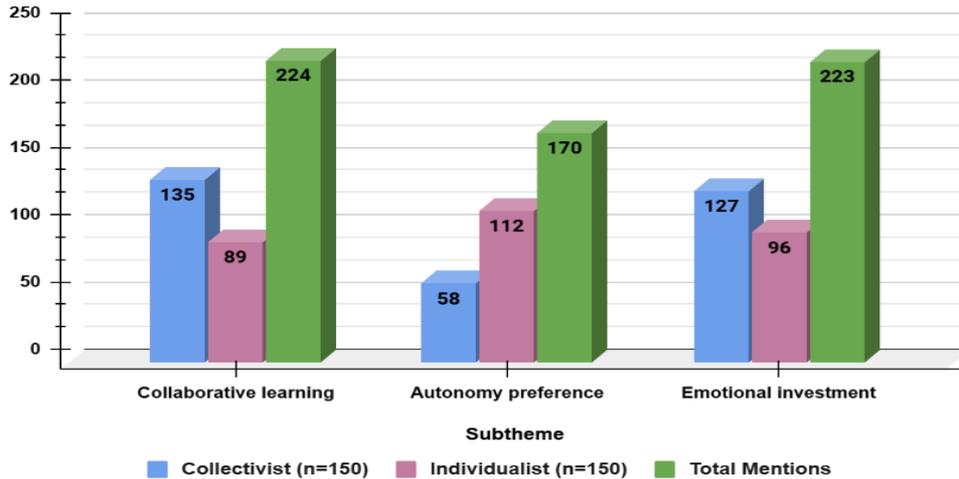


Figure 1: Frequency of Engagement Themes by Cultural Group

3.2. Cultural Narratives in Digital Contexts

Table 2 illustrates how cultural narratives shaped participants’ experiences with digital English learning. A majority of collectivist learners (112 participants, 37%) emphasized valuing group work over individual effort, highlighting the importance of collaboration. Conversely, 121 individualist learners (40%) expressed a preference for autonomy and

flexibility in learning environments. 47 participants across both groups (16%) reported discomfort with hierarchical instruction styles, indicating a need for more inclusive communication. 36 collectivist participants (12%) mentioned confusion due to unfamiliar technological terminology. These findings underscored how cultural expectations influenced learners’ perceptions of digital platforms, instructor roles, and overall engagement strategies.

Table 2: Cultural Narratives Reported by Participants

Cultural Narrative	Participants Reporting	% of Total (N=300)
Value group work over individual effort	112 (Collectivist)	37%
Seek autonomy and flexibility	121 (Individualist)	40%
Discomfort with hierarchical instruction	47 (Both)	16%
Confusion due to unfamiliar tech terminology	36 (Collectivist)	12%

“When everything is about clicking links and assignments, I feel like I’m just a user, not a student.” – P211
 “We never had breakout rooms before. I had no idea how to talk to peers online at first.” – P226.

Cultural mismatch, particularly in teacher expectations or platform navigation, often led to disengagement. Collectivist students, in particular,

felt disconnected when interactions were impersonal or overly task-driven.

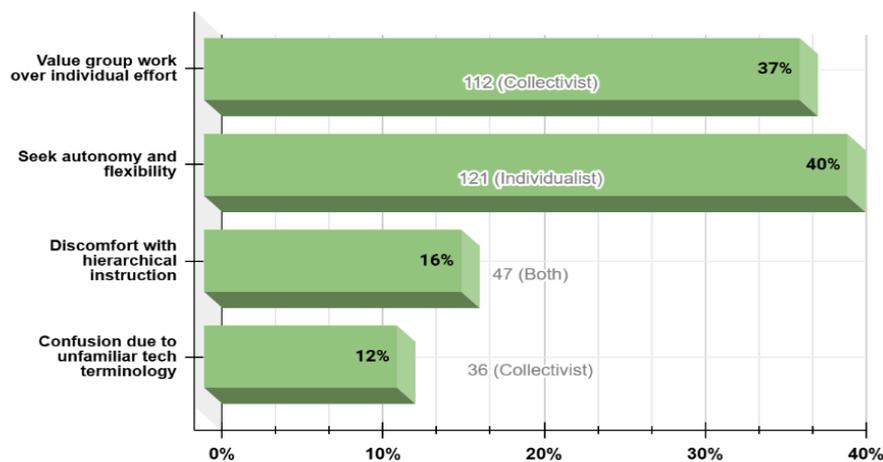


Figure 2: Culturally Rooted Narratives Influencing Digital Learning Engagement

3.3. Spectrum of Learner Participation

Table 3 shows the distribution of learners across three engagement levels: high, moderate, and low. Among collectivist students, 92 were classified as highly engaged, demonstrating consistent behavioral, emotional, and cognitive participation. In comparison, only 63 individualist learners fell into this category. Moderate engagement was observed in

43 collectivists and 58 individualist students, indicating selective participation in one or two dimensions. Notably, 29 individualist learners were identified as having low engagement, nearly double the 15 collectivist students in this category. These results suggested that collectivist learners generally maintained stronger overall engagement in digital learning environments compared to their individualist counterparts.

Table 3: Distribution Along Engagement Spectrum

Engagement Category	Description	Collectivist Students	Individualist Students
Highly Engaged	Active across all engagement dimensions	92	63
Moderately Engaged	Active in 1-2 dimensions	43	58
Low Engagement	Minimal emotional or behavioral presence	15	29

"The app was in English with no local language option. I felt lost at first." – P211.

"There were so many discussion posts – I didn't feel like saying anything." – P226.

Collectivist learners generally showed higher overall engagement, especially in collaborative and teacher-guided environments. Conversely, individualist learners reported greater comfort in task-based and flexible learning settings, though sometimes at the expense of social interaction and emotional expression.

3.4. Cross-Participant Patterns

Table 4 highlights individual-level engagement patterns influenced by cultural background and contextual challenges. Participant P102, from a collectivist culture, focused on collaboration and

maintained high engagement despite limited tech access. P211, another collectivist learner, was motivated emotionally but faced language barriers, yet remained highly engaged. The student (P147) was an individualist student who disliked dependent learning but demonstrated moderate engagement because of the unwillingness to interact with peers. P226, an individualist too, had a low engagement due to the discomfort with group-based tasks, but he focused on task efficiency. These examples showed the influence of cultural fit and platform accessibility on the engagement levels of students in different and subtle ways.

Table 4: Participant Snapshot Across Themes

Participant	Culture Group	Engagement Focus	Cultural Challenge	Reported Engagement Level
P102	Collectivist	Collaboration	Tech access	High
P147	Individualist	Autonomy	Peer interaction reluctance	Moderate
P211	Collectivist	Emotional motivation	Language barriers	High
P226	Individualist	Task efficiency	Cultural mismatch with group work	Low

"I don't need flashy apps. I need one that understands how I think and speak." – P211.

"When no one replies in the chat, it's like I'm learning alone in a crowd." – P102.

In this matrix, the high engagement was commonly associated with cultural alignment and contextual sensitivity, especially in communication and interface design. Those learners whose platforms recognized their social and linguistic standards were more confident and active.

4. DISCUSSION

The results of the research point to the high impact of cultural orientation on the involvement of students in the process of digital English language learning. The students with collectivist cultures showed a greater level of behavioral and emotional engagement, especially when in collaborative and synchronous settings. This is in line with the fact that learners with collectivist tendencies are motivated

and focused by participation unity, group cohesion, and directive guidance. Individualist learners, on the other hand, were very keen on self-paced and flexible environments and focused on autonomy and independent decision-making rather than interactive or socially embedded practices.

The cultural differences that surround engagement were also contextualized with the help of narratives present during interviews. Students explained how the design of the digital platform, communication with the instructors, and the requirements of the learning process were similar to or conflicting with their cultural values. As soon as digital learning environments appealed to the cultural and emotional needs of a learner (e.g., the presence of support in the native language, the possibility to perform group

tasks, or the possibility to have a flexible approach to task performance), the engagement increased greatly. This explains that engagement does not only imply the efficiency of the platform or the clarity of the content, but also the cultural suitability of the whole learning process.

These results corroborate earlier studies that emphasize the sociocultural nature of language learning and the need for culturally sensitive pedagogy. Kramsch & Widdowson (1998) and Byram et al. (2002) argue that language education must consider learners' cultural backgrounds, as these shape how students interpret interaction, authority, and success. Our findings reaffirm this perspective by showing how collectivist learners, who often associate learning with community and relational structures, are less responsive to individualist, gamified platforms like Duolingo, which promote self-tracking and independent goals (Solmaz, 2024).

Research by Hu & McGrath (2011) similarly found that educators in East Asia often felt that ICT tools did not align with their pedagogical values, leading to shallow implementation or resistance. Our data builds on this by showing the same applies to students, who may find such tools ineffective unless embedded in culturally coherent instruction. Further, emotional safety and cultural familiarity factors highlighted by Hossain (2024) emerged as critical for sustaining engagement, particularly among learners who were otherwise overwhelmed or linguistically marginalized.

The present study also complements insights from Li and Lan (2022), who note that behavior, cognition, and emotional patterns in digital learning are shaped by neural and social conditioning. By comparing collectivist and individualist groups, our findings illustrate that no universal model of digital engagement exists a conclusion consistent with calls for localization and customization in digital pedagogy (Zeng, 2018; Wang & Chik, 2022).

The implications of the study are practical and wide-reaching. For educators, the results stress the need to diversify teaching strategies in digital environments. Teachers should be trained to recognize and adapt to cultural engagement patterns by integrating collaborative and reflective tasks for collectivist learners and flexible, task-based assignments for those with individualist tendencies. Equally important is that teacher communication style, tone, feedback structure, and interaction frequency must be aligned with student expectations for participation and recognition.

For developers and instructional designers, the findings highlight the importance of flexible and

culturally inclusive platform features. Technologies should allow teachers to adjust interface language, peer-interaction intensity, and task scaffolding. Platforms that include multilingual menus, peer discussion tools, and customizable lesson pathways are more likely to retain engagement across cultures (Chu et al., 2011; Awedh et al., 2015).

At the institutional level, education leaders must ensure that digital literacy programs go beyond access and usability to include intercultural sensitivity. As more universities adopt global learning platforms, acknowledging the role of emotional, linguistic, and cultural accessibility is essential to support inclusive digital transformation (O'Dowd, 2018; Dressman et al., 2023).

Despite its strengths, the study has several limitations. The classification of participants into "collectivist" and "individualist" groups was based on nationality and self-reported social values. While this offers a useful framework, it may oversimplify complex cultural identities, particularly in globalized, multilingual, and urban learners who navigate multiple cultural codes simultaneously (Lanvers & Coleman, 2017).

Another limitation involves the scope of qualitative data. Although interview findings enriched the study, they were derived from a subset of 40 participants. A broader or more diverse qualitative sample might reveal additional nuances, especially among learners with overlapping social challenges such as economic hardship or limited tech access. The study focused solely on English language learning, and results may not fully generalize to other academic disciplines where task structure and cognitive engagement differ significantly (Garlepp, 2025). Finally, while efforts were made to ensure ecological validity through classroom observations, the nature of digital learning means that participant engagement may vary depending on platform familiarity, home environment, or teacher rapport, factors which were not equally controlled across all sessions.

Building upon the insights of the research, future studies should examine how engagement patterns evolve through longitudinal designs, particularly as learners grow more familiar with digital tools or shift between cultural settings. It would be valuable to investigate whether collectivist learners develop increased comfort with autonomy-driven platforms or whether individualist learners adopt more collaborative strategies as digital classrooms evolve. The next steps in the research could be examining how new technologies like virtual reality (VR) and artificial intelligence (AI) can be used to moderate the

process of cultural engagement. The technologies can provide immersive, flexible environments that react in real-time to the preferences of individual learners and, therefore, address some of the cultural mismatches that characterize existing tools.

To gain more insight into the process of teacher mediation, it is also reasonable to further investigate the influence of instructor attitude and cultural sensitivity on the success of digital pedagogy in multicultural classrooms. Lastly, future studies need to consider increasing the number of underrepresented groups of learners, including rural or multilingual learners or those with socioeconomic disadvantages, whose experiences with digital engagement are underestimated yet vital to fair education.

5. CONCLUSIONS

The researcher investigated how cultural orientation influences the participation of students in digital English language learning settings, using learners of collectivist and individualist society. The results indicated the significant distinctions between the engagement styles in different cultures: the emotional and behavioral engagement among collectivist learners was significantly higher in collaborative and synchronous environments whereas individualist learners preferred autonomy, task-based learning, and flexibility. Such differences are important in that they point to the fact that engagement is a culturally mediated process that is subject to social expectations, conventions of

communication, and learning conditions. These have serious implications to educators, institutions and educational technology developers. Educators need to implement culturally responsive practices that are in line with the engagement needs of various learners. The educational platforms must provide the customizable functions that consider the cultural diversity, such as the support of peer interaction, multilingual accessibility and the flexibility of the learning pathways. To achieve digital equity, institutions ought to ensure they offer inclusive training and tools that respect the differences in culture and increase interactions among the diverse student bodies. On the basis of these findings, the paper proposes that digital language learning should be constructed to provide cultural flexibility inbuilt in the system whereby learners can opt to engage in learning modes that suit them. Educators are supposed to learn how to detect cultural signs of involvement and adjust the teaching styles to them. Culturally relevant content and features of learner control should also be considered to be embedded in the curriculum design in order to accommodate different engagement patterns. The dynamics should be studied longitudinally in the future to learn how cultural engagement is changing over time and regarding new technologies such as VR and AI. A more inclusive and equitable digital learning structure that reaches the entire spectrum of English language learners worldwide will be vital and will require the inclusion of underrepresented groups, including rural or linguistically diverse learners.

REFERENCES

- Astari, T. (n.d.). The use of Wikipedia in Indonesian Education: Investigating Experiences and Challenges for Students and Educators. In *Wikimedia Research Fund*.
- Awedh, M., Mueen, A., Zafar, B., & Manzoor, U. (2015). Using Socrative and Smartphones for the support of collaborative learning. *arXiv preprint, arXiv:1501.01276*.
- Byram, M., Gribkova, B., & Starkey, H. (2002). *Developing the intercultural dimension in language teaching: A practical introduction for teachers*. Language Policy Division, Council of Europe.
- Chamberlin-Quinlisk, C. (2012). Teaching Language and Culture in a Digital Age. *Journal of Educational Technology, 9*(1), 11-18.
- Chu, S. K. W., Tse, S. K., & Chow, K. (2011). Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills. *Library & Information Science Research, 33*(2), 132-143. <https://doi.org/10.1016/j.lisr.2010.07.017>
- Colvin, M., Reesman, J. L., & Glen, T. (2024). *Neurodevelopment in the Post-pandemic World: The Altered Trajectory of Children's Education, Mental Health, and Brain Development*. Oxford University Press.
- Dressman, M., Lee, J. S., & Perrot, L. (2023). *English language learning in the digital age: Learner-driven strategies for adolescents and young adults*. John Wiley & Sons.
- Eslit, E. (2024). Integrative Language Acquisition and Learning Model (ILALM): A Transformative Framework for Post-Pandemic Language Education. In *Educational Innovation Series* (if applicable).
- Garlepp, A. (2025). *Evidence-Based Recommendations for Preschool-Aged Dual-Language Learners: An App Supporting English Vocabulary* (Doctoral dissertation).
- Guth, S., & Helm, F. (Eds.). (2010). *Telecollaboration 2.0: Language, literacies and intercultural learning in the 21st*

- century (Vol. 1). Peter Lang.
- Hajizadeh, S., Ebadi, S., Salman, A. R., & Badiozaman, I. F. B. A. (2024). Young twins' journey via digital storytelling towards multi-literacy development. *Journal of Visual Literacy*, 43(3), 214–232. <https://doi.org/10.1080/1051144X.2024.2394333>
- Haq, I. U. (2023). Impact of Augmented reality system on elementary school ESL learners in the countryside of China: Motivations, achievements, behaviors and cognitive attainment. *arXiv preprint, arXiv:2309.09894*. <https://arxiv.org/abs/2309.09894>
- Hossain, K. I. (2024). Reviewing the role of culture in English language learning: Challenges and opportunities for educators. *Social Sciences & Humanities Open*, 9, 100781. <https://doi.org/10.1016/j.ssaho.2023.100781>
- Hu, Z., & McGrath, I. (2011). Innovation in higher education in China: ¿Are teachers ready to integrate ICT in English language teaching? *Technology, Pedagogia and Education*, 20(1), 41–59. <https://doi.org/10.1080/1475939X.2011.554014>
- Gramsh, C., & Widdowson, H. (1998). *Language and culture*. Oxford University Press.
- Lanvers, U., & Coleman, J. A. (2017). The UK language learning crisis in the public media: A critical analysis. *The Language Learning Journal*, 45(1), 3–25. <https://doi.org/10.1080/09571736.2013.830639>
- Leu, D. J., Forzani, E., Rhoads, C., Maykel, C., Kennedy, C., & Timbrell, N. (2015). The new literacies of online research and comprehension: Rethinking the reading achievement gap. *Reading Research Quarterly*, 50(1), 37–59. <https://doi.org/10.1002/rrq.85>
- Li, P., & Lan, Y. J. (2022). Digital language learning (DLL): Insights from behavior, cognition, and the brain. *Bilingualism: Language and Cognition*, 25(3), 361–378.
- McCulloch, G. (2019, November). *Children are using emoji for digital-age language learning*. *Wired*.
- O'Dowd, R. (2018). From telecollaboration to virtual exchange: State-of-the-art and the role of UNICollaboration in moving forward. In *Research-publishing.net*, 1–23.
- Parrish, A. (2025). Ideological monolingualism and the languages classroom in England. In *The Routledge Handbook of Endangered and Minority Languages* (pp. 228–242). Routledge.
- Solmaz, O. (2024). Impacts of digital applications on emergent multilinguals' language learning experiences: The case of Duolingo. *Education and Information Technologies*, 1–30.
- Sundqvist, P., & Sylvén, L. K. (2016). Global and Extramural English: Classroom Challenges. *Extramural English in Teaching and Learning: From Theory and Research to Practice*, 19–41.
- Trichopoulos, G., Alexandridis, G., & Caridakis, G. (2023). A survey on computational and emergent digital storytelling. In *Heritage*, 6(2), 1227–1263.
- Troussas, C., Virvou, M., Troussas, C., & Virvou, M. (2020). Computer-supported collaborative learning: A novel framework. *Advances in Social Networking-based Learning: Machine Learning-Based User Modelling and Sentiment Analysis*, 59–68.
- Wang, D., & Chik, A. (2022). Chinese-language education in Australia and New Zealand: Key issues and challenges. In *International Handbook on Education Development in Asia-Pacific* (pp. 1–17). Springer Nature Singapore.
- Zeng, S. (2018). *English learning in the digital age*. Springer Singapore.