**Empowering Multilingual Learners: Real-World Adaptation of Multimodal Strategies in English Education**

**Abstract**

In multilingual secondary English classrooms, educators face significant challenges in leveraging technology to foster inclusion and language development due to rigid curricula and unequal access to digital resources. This study examines how teachers utilize digital multimodal tools, including digital storytelling, collaborative online platforms, and bilingual media projects, to overcome these barriers and support student engagement, proficiency, and affirmation of their identity. Utilizing a qualitative case study design in Guangdong, China, data were collected through classroom observations, teacher interviews, and analysis of student-generated digital artifacts. Findings demonstrate that strategic integration of digital tools, underpinned by translanguaging pedagogy, enabled students to leverage their full linguistic repertoires, resulting in marked improvements in oral skills, vocabulary acquisition, and language confidence. The study reveals that institutional constraints necessitate teacher agency, which can be developed through targeted professional development. This research provides evidence-based strategies for implementing technology-driven, inclusive pedagogy in multilingual contexts and advocates for structural reforms to support digital English education equitably.

Keywords: *digital storytelling, English language education, multilingual classrooms, technology integration, inclusive pedagogy, translanguaging, educational technology, student engagement*

**1. INTRODUCTION**

The contemporary state of English teaching in the multilingual classroom is undergoing rapid evolution, driven by the convergence of technology, digital media, and new pedagogies. The heterogeneity of these classrooms makes English not only a target language but a powerful tool of critical thinking, self-identity, and establishing international relations (Kress, 2010). Nevertheless, conventional teaching methods are often insufficient to address students with multicultural backgrounds. One of the main issues is how to optimally utilize digital resources offered by collaborative websites, such as Padlet, and transformative software, like Canva and video editors, to overcome language barriers and make learning both inclusive and engaging.

The methods of teaching that incorporate text, images, digitized materials, sound, and motion are helpful learning tools. Digital multimodal plans can help teachers present material in various formats, creating inclusive classrooms that respect different literacy practices and cultural representations (Jewitt, 2009). Although the efficiency of such strategies is promising, additional evidence-based research is required to understand how a particular technology-mediated practice works in the actual multilingual classroom, where students can utilize their complete linguistic repertoires as valuable learning resources.

This study examines the process of technology integration in multilingual classrooms, specifically how teachers adopt and adapt digital storytelling and other multimodal approaches in teaching students with diverse language backgrounds. Our research objective is to identify effective classroom practices that incorporate digital media projects, online collaborative activities, and bilingual storytelling software, and to investigate the factors contributing to the success of these practices. In particular, we consider the use of tools such as video editing software and internet whiteboards to operationalize the processes of translanguaging and group learning practices, merging native languages with English learning.

The study provides grounded information about digital multimodal instruction, based on systematic observations, interviews with teachers, and an analysis of student products in the form of digital objects. The purpose of this study is to assess the efficacy and generate usable knowledge on actions that can be taken to adapt technology-based strategies to accommodate multilingual learners better.

The following research questions are posed to guide this inquiry:

1. What are the ways that teachers employ digital multimodal strategies (e.g., digital storytelling, collaborative online sites) to encourage interaction and understanding between multilingual English learners?
2. What are the classroom/institutional conditions leading to the use or constraints of these technology-mediated methods?
3. What can be done to adjust these digital strategies to make them more linguistically inclusive when teaching English?

The research helps close the theory-practice divide in technology-enhanced pedagogy among multilingual learners, and its practical implications can be applied by educators, curriculum developers, and policymakers in language education.

**2. LITERATURE REVIEW**

**2.1 Theoretical Frameworks**

To understand multimodal strategies properly in multilingual classrooms, one needs theoretical frameworks that are comprehensive and strong. This section applies multimodality, sociocultural learning, and translanguaging theories to understand language mediation in diverse classrooms.

**2.1.1 Multimodality Theory**

Multimodality theory posits that meaning-making extends beyond language, as individuals interpret information through various symbolic modes like visual, spatial, gestural, and auditory components (Kress & van Leeuwen, 2001). This theory directly challenges the dominance of alphabetic literacy in language teaching. Digital tools are the major drivers of multimodality in the contemporary classroom. Software like Canva for graphic design, iMovie or Clipchamp for video narration, and Padlet for collaborative brainstorming provide students with a suite of semiotic resources for expression. In the case of multilingual students, these devices are revolutionary; they create opportunities to display their comprehension, which do not necessarily rely on competence in written English. As an example, a student can create an audio recording with the support of audio-recording functions to tell a story in his or her native language and add English subtitles, or employ visual layout in an online poster to communicate her or his complex ideas, thereby implementing the principles of multimodality with the help of technology.

**2.1.2 Sociocultural Theory**

Vygotsky is the author of sociocultural theory, which underlines that social interactions are the basis of learning and language, and tools serve as mediators. The theory explains how students acquire knowledge as they engage in culturally defined activities throughout the course. In the modern classroom, technology serves as a crucial mediating tool. Collaborative learning platforms (e.g., Google Docs, Padlet) facilitate home language-based collaborative learning models, which have been proven effective in enhancing cognitive and language development (Langeloo et al., 2019, p. 540). These electronic communities are spaces of proximal development, where peers can co-create knowledge. Moreover, the ability of students to navigate and occasionally defy consistent language policies through the usage of technology is evident in projects that integrate multiple languages in any given multimedia platform and enable the use of language to establish their identities. This study builds upon original results, investigating how digital multilingual learning methods can create supportive, technologically mediated zones of proximal development within institutional constraints.

**2.1.3 Translanguaging Theory**

Translanguaging theory breaks the unnatural division between languages. According to Garcia and Wei (2014), this can be defined as a process by which multilingual speakers utilize their entire linguistic resources to create meaning, build identities, and fulfill communicative roles (p. 67). Digital spaces are also supportive of translanguaging. When a student is asked to produce a digital story in which they can script in Urdu, provide a voiceover in Mandarin, and add English captions using video editing software, the described process can be described as translanguaging. It goes beyond code-switching; it is a pedagogically scheduled utilization of linguistic assets that one has in using the various modes. For educators, this involves making deliberate efforts to ensure that activities are designed in ways that allow and support language fluidity by providing accommodating structures (e.g., bilingual online glossaries, translation applications) and ensuring that any language used in the process is validated. Thus, digital environments function not merely as a backdrop but as an active enabler of translanguaging pedagogy, providing the semiotic tools for students to integrate their linguistic repertoires seamlessly.

**2.2 Review of Relevant Studies**

Research studies have examined multimodal learning in language teaching. While research into multimodal learning in language development continues to increase, thorough analysis of its classroom usage remains limited within educational institutions that face curricular limitations. New studies most often work with monolingual settings or highlight the usefulness of multimodal tools in simple classroom situations, overlooking the difficulties that multilingual classrooms face due to curriculum constraints and limited resources.

In their 2019 work, Hirsch and Macleroy highlight that digital storytelling enables students to represent their identities through the use of multimedia, language, and voice. Although their research supports the value of these tools for engagement and affirming identity, much of it applies to places where teachers can make significant decisions and access necessary materials. On the other hand, our study focuses on multimodal storytelling in environments with more rules, where both student creativity and teacher flexibility are crucial for these strategies.

Similarly, Smith et al. (2022) investigate how students become authors and producers of knowledge by composing multimodally. Still, they primarily focus on what the students achieved rather than how teachers supported them. Scaffolding language transfer and allowing translanguaging are primary roles of the teacher. It seems clear that these multimodal tools can be ineffective until they include guidance for learners about code-meshing, adding subtitles to narrations, or scripting in both languages.

In addition, both Ntelioglou et al. (2014) and Hyun et al. (2022), among others, suggest that multimodal methods are especially valuable in developing creative literacy. However, these studies often isolate digital tools from the sociopolitical realities of classroom implementation. The role of teachers as content deliverers and policy navigators in under-resourced settings remains under-examined. Our research addresses this gap by foregrounding teacher agency and institutional constraints as key variables in the successful application of multimodal strategies.

**2.2.1 The Role of Literature and Digital Media in English Education**

Conventional monolingual literature presents accessibility challenges for multilingual learners. According to Kress (2010) and Jewitt (2009), the incorporation of digital texts into the tools of semiotics is necessary. Although the advantages of tools such as digital storytelling apps have been widely proven through studies, they often overlook configuration problems in limited settings. Hirsch and Macleroy (2019) emphasize that digital storytelling provides students with the opportunity to reflect on their identities through multimedia; however, their studies are often conducted in settings where teachers have considerable autonomy and access to resources. The paper presents a case study on how these same tools can be utilized to design bilingual podcasts, videos, and digital posters in settings with more stringent rules and limited technology, where teacher flexibility and creativity are the primary determinants of success.

On the same note, Smith et al. (2022) explore how students become authors through multimodal compositions. However, they pay less attention to the role of the teacher in scaffolding the process using technologies. In our case, the primary task of the teacher is to lead the process of transferring language with the help of digital tools, e.g., when a teacher requests that students merge codes in Google Docs or add subtitles to a narration. In the absence of this direct advice on how to utilise technology as a means of translanguaging, these digital tools remain useless.

Moreover, although researchers such as Ntelioglou et al. (2014) propose that multimodal approaches can foster creative literacy, they often overlook the decontextualization of digital technologies from the sociopolitical realities of the classroom. There is scant research into the role of teachers as policy/technology navigators in under-resourced settings. We fill this gap with our research by foregrounding teacher agency in choosing and modifying platforms such as Padlet or Canva as important variables in the effective implementation of multimodal strategies.

**2.2.2 Multilingualism and Its Impact on Language Learning**

Studies have always emphasized the intellectual benefits of bilingual students (Barac et al., 2014; Garcia & Wei, 2014). Schools, however, do not tend to utilize these assets. The means of operationalizing this validation is through technology. We have found that bilingual digital storytelling, student scripts created on shared drives, and visual stories using graphic design software are viable translanguaging resources that facilitate a transition between home and school discourses. This paper not only views multilingualism as a background but also as a dynamic pedagogical resource that is optimized and mobilized through the use of digital mediation.

**2.2.3 Creative Pedagogies in Teaching English**

Non-conventional approaches, such as digital storytelling and design projects, are applauded as more engaging (Marshall, 2020). Nevertheless, a critical view of the institutional constraints that mediate their digital implementation is lacking in many studies. Creativity flourished in our observations, particularly in cases where teachers had both the freedom and expertise to utilize tools such as video editors and online collaborative tools, leveraging the complete linguistic repertoire of students. Teachers with less training in technology integration, on the contrary, tended to use technology at its surface (e.g., unchanging PowerPoint pictures) and did not allow their creativity to be exercised. Our critique offers a more nuanced approach: the effects of creative pedagogies depend on whether there is structural scaffolding of access to technology and whether educators can utilize digital, multimodal tools in culturally responsive ways.

**2.3 Gaps in the Literature**

Research on the use of multimodal approaches within multilingual English classrooms remains sparse, despite growing interest in this subject. Most academic studies on multimodal learning focus on homogeneous classrooms, such as those with a single language or mainstream students, rather than those with diverse student populations. However, little research exists on teaching strategies within education ecosystems where learners possess multiple languages.

Ntelioglou et al. (2014) are researchers who delved into urban elementary school practices of multimodal and multilingual literacy. The research project demonstrated how digital resources with linguistic assets present a potent educational combination; however, institutions often restrict teachers from exercising independent agency. Researchers at Hirsch and Macleroy (2019) revealed how digital storytelling functions as a primary multimodal approach to enable multilingual students to effectively integrate personal storytelling with multiple languages. The current research primarily focuses on elementary classrooms and specific projects, which fail to provide conclusive findings that can be adapted to secondary educational settings and teacher implementation practices.

This indicates that research by Smith et al. (2022) and Hyun et al. (2022) evaluates how multilingual students benefit from creating videos and podcasts through multimodal practices. Many research investigations choose to collect insights from students who demonstrate their creative work, rather than examining how teachers implement teaching practices or their curricular limitations in classroom settings. Documented research about how teachers transform theory into practice through multimodal strategies remains scarce in classrooms with rigid learning frameworks and scarce resource availability.

The independent analysis of translanguaging as an isolated concept represents a contradiction because both constructs ensure students can create meanings without limitations regarding modes or languages. Research on students' use of multimodal and translanguaging frameworks in practice remains sparse, as it does not address student transitions between linguistic and visual modes when creating digital narratives, nor does it examine teacher support of home languages through visual communication.

This study addresses these gaps by examining how secondary English teachers in multilingual classrooms use and modify multimodal strategies in real-time instruction. It contributes to the literature by:

* Offering detailed classroom analysis that connects teacher intent, pedagogical choices, and student responses.
* Investigating digital storytelling and collaborative tasks as vehicles for both language learning and identity expression.
* Exploring the interplay between institutional barriers, teacher training, and the feasibility of implementing such strategies effectively.

The study expands the empirical foundation for multimodal multilingual pedagogy and provides practical insights for educators, curriculum developers, and policymakers seeking to move beyond monolingual instructional norms.

**2.4 Implications for Practice**

The conclusions of this literature review produce important implications that affect educational practice and governmental policy regulation. For teachers to be successful using multimodal teaching, they need programs that improve their professional skills. It is essential that teacher training equips individuals with the skills to utilize technology, employ translanguaging strategies, and adopt culturally aware practices. Firms should utilize interactive whiteboards, multimedia software environments, and bilingual dictionaries to facilitate extended learning. Curriculum developers need to design educational resources that cater to the linguistic and cultural diversity found among students in schools. When such gaps are closed, educators can design effective learning spaces for all students with different home languages.

**2.5 Future Directions in Research**

Future investigations should examine the long-term effects of multimodal educational methods on the educational achievement, mental development, and social adjustment of multilingual students. Research should investigate methods to integrate technology into multimodal educational strategies, aiming to maximize student learning in multilingual instructional settings. Studies must gather the voices and first-hand perspectives of multilingual learners to understand what works best for their educational journey. Investigators in these areas will inform education approaches that enable students to learn in more than one language.

**3. METHODS**

**3.1 Research Design**

Through qualitative research methods, the effectiveness of multimodal teaching strategies is evaluated in multilingual classrooms teaching English to students. According to Yin (2018), a case study approach is an ideal method for analyzing educational phenomena when observing them in their original settings. The study adopts an interpretive paradigm because it acknowledges the significance of social dynamics and cultural factors that influence academic learning (Creswell & Poth, 2018). Qualitative techniques are well-suited for this research investigation because they enable researchers to provide detailed insights into instructional approaches, teaching obstacles, and student focus. The research enhances its methodological strength through the triangulation methodology, which combines classroom observations with interviews, analysis of student work, and evaluation of classroom artifacts. The study primarily relies on qualitative research methods, yet it also conducts a small survey involving students to verify emerging patterns and supplement knowledge about student engagement levels.

**3.2 Sampling Method**

The research team employed purposive sampling as their method for selecting participants, targeting those who met predetermined criteria. The researchers worked with secondary schools in Guangdong, China, serving students from different linguistic backgrounds. Participating teachers brought different levels of experience in multimodal instruction, while ten students were participating in English classes through multimodal teaching methods. The additional questionnaire administered to thirty students supported the findings by providing quantitative data to verify the qualitative results. The researcher selected participants from diverse teaching backgrounds and students with different instructional settings to gain a thorough understanding of multilingual classroom multimodal practices. Guest et al. (2006) employed data saturation principles to demonstrate the appropriate sample size, as this ensured thematic convergence, thereby enhancing the credibility of the research results.

**3.3 Data Collection Methods**

Data were collected through multiple methods to ensure a holistic understanding of the research problem:

1. **Classroom Observations**: The research team watched actual classroom sessions to document teachers' implementation of multimodal teaching methods. The research assessed how teachers interacted with students while exploring various visual and auditory instructional devices and monitoring educational advancement. The research team took comprehensive observation notes throughout every session.
2. **Semi-Structured Interviews**: Semi-structured interviews enabled teachers to share their ongoing experiences, challenges, and personal observations regarding multimodal teaching. Participating teachers responded to open-ended interview questions, which enabled in-depth responses. Sample questions included:
   * How do multimodal teaching and learning affect student engagement and academic performance in multilingual classrooms?
   * What are the best practices for integrating creative and inclusive methods in English education for multilingual contexts?
   * How can technology and multimedia resources enhance the effectiveness of multimodal teaching approaches in multilingual classrooms?
   * What challenges do educators face in implementing multimodal approaches in multilingual English classrooms?
   * What practical solutions can be proposed to support integrating multimodal strategies in multilingual English education?
   * Can you describe a specific instance where a digital tool (like Padlet or a video editor) successfully helped you engage multilingual learners

* Observation protocols specifically noted the use of digital tools (e.g., video editing software, collaborative platforms) and how they facilitated multimodal and multilingual work.

1. **Analysis of Student Work**: The analysis of student work, which included written documents, digital assignments, and multimedia projects, investigated how multimodal strategies influenced creativity, language skills, and student engagement.
2. **Classroom Artifacts**: Additional classroom resources, including weekly lessons and instructional aids with digital education resources, were examined to understand multimodal teaching techniques in practice.

**3.4 Data Analysis Techniques**

The researchers analyzed the data using thematic methods, maintaining their analysis in NVivo software to establish systematic coding systems. Multiple reviews of transcripts and observation notes allowed the researchers to perform open coding, identifying recurring themes. The researcher established major themes from which they grouped all coded data, including instructional effectiveness, technological barriers, and student engagement. The data analysis achieved 85% reliability when reviewed by an independent reviewer. The survey data processing, using descriptive statistics, generated numerical findings that supplemented the results obtained from the qualitative themes.

**3.5 Ethical Considerations**

The research study adhered to ethical guidelines, which included obtaining informed consent from all participants. All data was kept anonymous and confidential using encrypted data storage systems and pseudonym identification. All study participants could voluntarily join and withdraw at any point during research activities. The research received proper approval from an institutional review board for ethical purposes.

**3.6 Limitations**

The research has yielded extensive findings; however, researchers need to address specific limitations within this work. The research contains data from 10 teaching professionals and 10 educational students for qualitative assessment, and it utilizes surveys from 30 additional students to present restricted quantitative evidence. The achieved data saturation could be strengthened by using a larger randomized sample to enhance the study's generalizability. The analysis area of focus is Guangdong, which has a significant impact on the universal applicability of these findings beyond the province. The supplementary survey helps strengthen this research; however, the study would gain additional statistical power by implementing a comprehensive mixed-methods research design with experimental controls. Future research should conduct extended studies to examine the long-term effects of implementing multimodal teaching methods.

**3.7 Future Research Directions**

Generalizing the effectiveness of multimodal strategies requires additional research involving wider geographic areas and an evaluation of participant diversity in different educational systems. Extended research following students over time will help us understand how multifaceted instruction continues to influence their academic development, identity emergence, and cultural adjustment. Research applying experimental and mixed-methods approaches must verify how teaching with multiple modes affects student achievement measurements. Research into emerging technologies, particularly artificial intelligence and virtual spaces, is likely to yield discoveries that facilitate the widespread implementation of inclusive language education globally.

**4. RESULTS**

The findings reveal a complex interplay between pedagogical intent, technological tool selection, and institutional support. The results are organized around key technological practices and the barriers that hinder their implementation.

**4.1 The Impact of Bilingual Digital Narration and Storytelling**

The most significant increases in language confidence and proficiency were observed in classrooms where teachers utilized digital storytelling projects that deliberately incorporated students' home languages. Instead, it allows students to combine audio from their native language (L1) and English language (L2) text and subtitles.

* **Effectiveness:** Students, with the help of the teacher (4-7 years of experience), developed bilingual video diaries on family traditions. Jia, one of the students, wrote her narrative in Mandarin with the help of her peers, then added English subtitles by utilizing the video editor's title and subtitle options. She testified that it was easier to talk since it was easier to comprehend messages in both languages. The practice is consistent with translanguaging pedagogy (Garcia & Wei, 2014), as the technology helped her integrate her entire linguistic repertoire seamlessly to convey meaning.
* **Ineffective use:** A novice teacher, on the contrary, (exp. less than 1 year) relied solely on static images in PowerPoint, arguing that students devote too much of their attention to complicated tasks. The hesitancy to capitalize on interactive and multi-format aspects of the existing software led to a lack of student achievement and interaction, as also indicated in Table 1. This suggests that it is not enough to have technology; it should also be pedagogically intentional and multimodal in nature.

**Table 1.** Frequency and Effectiveness of Technology-Driven Multimodal Strategies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Experience** | **Key Digital Strategies Used** | **Effectiveness (1–5)** | **Institutional Barriers** | **Technology Access** | **Primary Technological Barrier** |
| 4–7 years | Digital storytelling, group projects | 4 | Rigid curricula | Low | Rigid curricula limiting tech use |
| <1 year | Visual aids, role-playing | 1 | Limited resources | Medium | Low confidence with digital tools |
| 1–3 years | Digital storytelling, visual aids | 2 | None | High | Lack of advanced software access |

**4.2 Collaborative Learning through Online Platforms**

The emergence of collaborative online tools, such as Padlet and Canva, has become a potent means of peer-to-peer learning and interaction. The tools offered a low-stakes, visually based environment where students could contribute using their shared language resources.

* **Effective Integration:** A teacher who used Padlet to brainstorm together regularly and Canva to create a graphic or poster stated that there was a great deal of increased interaction. When I allow students to produce posters about their stories using online tools, they become more interested. The teacher reported that students were often asked to continue working even after class. The collaborative, online platform enabled asynchronous participation by students through text, image, and audio, thereby justifying other forms of engagement.
* **Outcome:** This method helped Vygotsky in his sociocultural theory because the digital platforms in themselves became mediating means of social interaction and co-construction of knowledge. Students were not only content consumers but partners and creators.

**4.3 Barriers to Technology Integration and Access**

A common theme throughout the data was the tension between the possibility of digital tools and the institutional restrictions that curtailed them. Critical barriers mentioned by teachers included an inflexible curriculum, a lack of available devices, and inadequate administrative support.

**Table 2.** Institutional Barriers and Technology Integration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Experience** | **Institutional Barriers** | **Tech Use** | **Effective Tools Used** | **Support Needs** |
| 4–7 years | Rigid curriculum | No | N/A | Training programs, digital PD |
| <1 year | Lack of resources | No | N/A | Funding and tech access |
| 1–3 years | None | Yes | Online platforms (Padlet, Canva) | Curriculum flexibility |
| <1 year | Lack of resources | Yes (personal) | Personal laptop and speakers | Peer collaboration, mentorship |

* Resource Scarcity: The experience of one of the teachers was typical: I had to carry my laptop and speakers most of the time to create a successful lesson. There is a single projector for four classrooms. Such dependency on personal technology produced a non-uniform and unsustainable implementation environment.
* The Training Gap: A lack of professional development was a significant barrier. As one of the teachers has said, it was expected that we should apply these new methods, but no one showed us how. I figured it out through trial and error. This led to a significant difference in efficacy, with teachers who had informal support networks or personal initiative performing better, as indicated in Table 3.

**Table 3. Professional Development and Support Needs**

|  |  |  |
| --- | --- | --- |
| **Experience** | **Support Resources** | **Technology-Focused Development Needs** |
| 4–7 years | Ongoing training | Workshops on advanced digital storytelling tools |
| <1 year | Peer support | Mentorship on basic tech integration (Canva, Padlet) |
| 1–3 years | Curriculum flexibility | Digital integration and lesson planning |
| 8+ years | Training and collaboration | Advanced multimodal techniques and new software |

**4.4 Student Perceptions and the Role of Technology**

Student feedback highlighted how technology both empowered and challenged them, depending on their proficiency and the support provided.

**Table 4. Student Perceptions of Technology-Mediated Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Student Language Level** | **First Language** | **Impact of Digital Strategies** | **Technology Support Requested** |
| Beginner | Other | Improves understanding | Peer support features, visual aids |
| Intermediate | English | Mixed experience | More guided digital support |
| Advanced | English | Strong improvement | Tech engagement, creativity outlets |

* **Empowerment vs. Frustration: The** more advanced learners deemed multimodal tasks as empowering, and the less experienced learners voiced both excitement and frustration. One of the students commented, 'I loved making the video, but editing was difficult.' I needed some help with the English part.
* **Mitigation through Design:** This irritation was reduced in the classrooms where the teachers prepared projects to be worked on in groups. Even less proficient learners found it easier with linguistic support, using standard documents or video editing programs, which allowed them to participate in the digital environment through drawings, gestures, and translations.

**4.5 Assessment Results: Measuring the Impact of Technology Integration**

The pre-test and post-test results (averaging from 70 to 85) indicate significant improvement associated with the depth of technology-integrated strategy use.

**Table 5. Pre- and Post-Test Assessment Results**

|  |  |  |
| --- | --- | --- |
| **Assessment Type** | **Mean Score** | **Key Insight** |
| **Pre-Test** | 70 | Baseline language proficiency |
| **Post-Test** | 85 | Notable gains linked to strategic technology use for multimodal creation |

* Qualitative Evidence: The reflection of a bilingual student helps to see why: I was used to writing only short answers. Nonetheless, in the case of the video project, I had to comment on scenes. I developed the skills of describing feelings and actions in English. The technological activity, which involved planning, narrating, and visual editing, required greater involvement with language, resulting in growth and subsequent fluency.
* The Comparison: The students involved in a multilingual digital storytelling project have been able to increase their scores from the 60s to the mid-80s. They utilized video clips with text subtitles in between English and their languages of origin, and they employed the software's captioning features to explain complex parts. According to a teacher's summary, the desired outcome was to teach students the ability to think and express their ideas comfortably, which was facilitated by the use of digital media.

**5. DISCUSSION**

This paper has demonstrated that successful translanguaging and multimodality facilitation can be achieved only through the strategic incorporation of specific digital tools in the context of multilingual classrooms. Our results extend beyond the theoretical support of these pedagogies to provide a clear foundation for the technology-mediated implementation of these pedagogies, which not only uncovers their transformative potential but also identifies the decisive prerequisites to their success.

**5.1 Digital Tools to Translanguaging and Multimodality.**

The most effective practices were those that utilized digital tools by teachers not only as engagement means, but also as linguistic scaffolds for bridging the gap. The use of software such as iMovie and Clipchamp was not only a video editor but also a translanguaging platform. These tools offered a realistic way for students to utilize their entire linguistic repertoire, as espoused by Garcia and Wei (2014), by enabling them to overlay L1 audio narration with L2 subtitles. This technology strategy ensured that language translation was a tangible, attainable activity in the classroom, rather than an abstract concept. Equally, collaborative tools (Padlet and Canva) were also utilized as digital spaces for multimodal expression, allowing students to add meaning in the form of text, pictures, audio, and video to alleviate the cognitive burden of creating extended L2 text alone. This reinforces the sociocultural theory of Vygotsky, as the technology itself was a mediating factor in the zone of proximal development, facilitating social interaction and peer scaffolding.

In turn, the inefficient application of technology, i.e., using PowerPoint exclusively as a source of static images, underscored that the choice of tools should be made with pedagogical purpose in mind. The actual distinction was not the tool itself, but the way the teacher utilized the multimodal affordances of the tool to provide inclusive, meaning-making possibilities.

**5.2 Implications for EdTech Design**

Our results provide specific guidelines to educational technology developers who want to target multilingual markets:

* **Integrated Translanguaging Characteristics:** EdTech tools can and must incorporate features that are inherently transLanguage. This will involve the use of integrated and straightforward subtitle and captioning features that allow for simultaneous translation of multiple languages, voice recording, and in-built glossary features, where learners can define words using their L1 and L2.
* **Low-Threshold, High-Ceiling Design:** There should be tools that are easily adopted by novice teachers and students (low threshold) and at the same time are capable of supporting more complex creative projects (high ceiling). To some extent, the popularization of Canva and Padlet in our research can be attributed to this design principle.
* **Offline and Low-Bandwidth Functionality:** Due to the resource limitations recorded, an effective EdTech to be used in global classrooms should have strong offline capabilities or be lightweight enough to be used with low-bandwidth connections, which guarantees fair access.

**5.3 Implications for Professional Development**

The significant difference in the performance of users with experience and those with no experience using technology highlights the fact that using technology becomes meaningless without proper training. Professional development should move beyond generic, tech training, to pedagogically-based digital literacy:

* **Modeling Pedagogical Integration**: PD must not teach How to Use Padlet, but How to Use Padlet for Collaborative Multilingual Brainstorming. Training should demonstrate how specific digital tools can be utilized to implement translanguaging and multimodal principles in practice.
* **Fostering Communities of Practice: The** mentioned usefulness of peer support and lifeline networks implies that PD needs to build long-term communities where teachers can collaboratively design lessons, exchange successful digital projects, and brainstorm about problems they might encounter with each other.
* **Building Digital Agency**: PD should teach teachers how to be critical analysts of technology in order to choose and configure the tools that best suit the linguistic and cultural resources of their individual students, instead of merely going through the software lists.

**5.4 Implications for Policy and Institutional Support**

The barriers shown at the institutional level must have structural solutions at a policy level:

* **Technology Access as Equity Policy:** The technology access as equity policy is an inherent question of equity in education. High-speed internet and reliable 1:1 device access in schools must be mandated and financed under policy, and viewed not as a luxury or an afterthought in schooling, but as a vital means of learning.
* **Flexible Curriculum Guidelines**: The most significant stumbling block of innovation is rigid and monolingual forms of curriculum. Policy should promote curriculum with flexible structures that explicitly support the use of students' home languages and multimodal products as legitimate displays of learning and knowledge.
* **Investing in Sustainable Support:** The policy should invest specific funds not only in hardware and software, but also in continual, embedded instructional technology support staff, and freeing up the time of teachers to do the work described above in PD and curriculum design.

Ultimately, this paper posits that the future of comprehensive English education in a multilingual context is inextricably linked to the intelligent utilization of digital resources. Pedagogies unlocked by technology include translanguaging and multimodal approaches. The leading actors of this process are the teachers, but they cannot make it by themselves. An enabling ecosystem of specifically designed EdTech, professionally meaningful professional development, and institutional policies of equity is all that they can use to leverage their tools successfully. When these three components are integrated, the result can be the attainment of classes in which technology enables all students to learn, create, and communicate through their full repertoire of linguistics and semiotics.

**6. CONCLUSION**

This study makes an important contribution to the current literature by focusing on the role of teachers in operationalizing translanguaging through multimodal strategies. Unlike previous research focusing on student outcomes or ideal classroom scenarios, this study grounds its findings in real-world secondary schools with limited resources and structural constraints. It highlights the specific ways educators adapt practices like bilingual video narration, collaborative storyboarding, and peer translation to meet the needs of multilingual learners. Doing so bridges the gap between theory and application, offering practical and policy-relevant insights into inclusive English instruction. Narrowed research findings indicate that multi-input learning methods lead to significant growth in student participation, as well as enhanced academic results and creative abilities, within multilingual English learning environments. Integrating digital storytelling with collaborative projects and interactive media by teachers creates adaptable learning environments that cater to students from diverse linguistic backgrounds. Teachers with higher expertise and extended experience handling multimodal methods deliver better classroom outcomes. Although these approaches show promise, they remain limited by institutional barriers, including rigid educational frameworks, limited resource availability, and a lack of professional development opportunities. These obstacles can be addressed through structural policy improvements, increased funding for technology, and well-organized training for educational professionals.

These promising results, however, are limited by several factors in this research. Such research was conducted exclusively within a defined geographic space and institutional network, limiting its ability to demonstrate universal applicability across all multilingual educational settings. Qualitative classroom observation methods, student interview data, and academic work analysis provided unique insights into pedagogical practices. However, they lacked the quantitative evidence required to measure lasting student achievement. Multimodal teaching strategies need further validation through expanded research involving larger subject pools and long-term data analysis, accompanied by qualitative experimental methods that can assess their effectiveness across various educational locations. An assessment becomes possible when researchers investigate how multimodal teaching techniques scale up across different educational levels, combined with cultural environments, alongside studying the sustained language learning and cognitive evolution results. The possibilities of emerging technologies, including AI-driven language tools and virtual learning environments, offer opportunities to enhance the delivery and effectiveness of multimodal, multilingual education. Future research on these key areas will generate innovative teaching strategies for preparing global students in multilingual communication through inclusive learning practices.

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