

Cross-Cultural Comparative Study of Educational Media Use in Multilingual Classrooms

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ABSTRACT

This study explores the role of educational media in multilingual classrooms in two distinct cultural and linguistic contexts—Sweden and Taiwan—by adopting a cross-cultural comparative approach. The research investigates how educational media tools, such as interactive platforms, language-learning apps, and digital videos, are utilized by teachers and students to support language learning in multilingual settings. Through focus group discussions, the study identifies commonalities and differences in the integration of educational media in both countries, shedding light on the impact of cultural and contextual factors. The findings highlight the potential of educational media to enhance language acquisition and inclusivity, particularly in classrooms with diverse linguistic backgrounds. However, the study also reveals significant challenges, including technological barriers, limited language support, and variations in teaching approaches between the two countries. In Sweden, educational media is more integrated into immersive language programs, promoting independent learning, while in Taiwan, it tends to serve as a supplementary tool, focusing on language drills and teacher-guided instruction. The study emphasizes the need for culturally sensitive educational media, teacher training, and improved technological infrastructure to maximize the effectiveness of digital tools in multilingual classrooms. This research offers valuable insights for policymakers, educators, and researchers interested in optimizing the use of educational media for multilingual learning environments.

Keywords: Educational Media, Multilingual Classrooms, Cross-Cultural Comparison, Language Learning, Digital Tools.

INTRODUCTION

As globalization intensifies, multilingual classrooms have become a prominent feature of contemporary education systems worldwide. These environments, where students come from diverse linguistic and cultural backgrounds, present both challenges and opportunities for educators. One of the key strategies to address the needs of multilingual learners is the effective use of educational media. Broadly defined, educational media includes a range of tools and technologies—digital platforms, visual aids, multimedia content, and interactive applications—that support learning processes. In multilingual classrooms, such media can bridge linguistic gaps, enhance engagement, and promote more inclusive teaching practices.

The growing linguistic diversity in schools often means that students are learning in a language different from their home language. In this context, educational media serves as a mediator between students' existing knowledge and new academic content. Visual, auditory, and interactive media allow for alternative routes to understanding, helping learners grasp complex concepts despite limited proficiency in the language of instruction. Furthermore, by incorporating multimedia resources in instruction, teachers can tailor learning to different language abilities and cognitive styles, creating more equitable access to knowledge.

One pedagogical approach gaining traction in multilingual contexts is translanguaging—the strategic use of

all of a student's languages to enhance learning. Educational media can support translanguaging by enabling students to switch between languages in digital content, subtitles, or voiceovers. For example, a student can watch an instructional video with captions in their home language while listening in the language of instruction. This dynamic and flexible use of languages fosters deeper comprehension and strengthens the learner's identity and confidence. García and Wei (2014) emphasized that translanguaging empowers learners by validating their full linguistic repertoire, making them active participants in meaning-making.

A cross-cultural perspective is essential to understand how educational media is applied in multilingual classrooms across different regions. Practices and outcomes can vary greatly based on educational policies, infrastructure, teacher training, and cultural attitudes toward multilingualism. In some countries, educational media is fully integrated into daily instruction, while in others, its use is limited by technological, financial, or ideological constraints. Comparing different approaches helps identify effective strategies that are sensitive to the cultural and linguistic contexts of learners. This comparative insight is particularly valuable in shaping future education policy and designing teacher training programs that are responsive to global diversity.

Educational media also plays a role beyond language learning; it enhances cross-cultural awareness. When students engage with content that reflects diverse voices, images, and experiences, they are more likely to develop empathy and global understanding. Shadieff et al. (2021) highlighted that digital tools and culturally responsive content contribute to identity formation and inclusivity, especially in early literacy development. For multilingual learners, exposure to content that reflects their own cultures as well as those of others fosters a sense of belonging and intercultural appreciation.

Despite its benefits, the integration of educational media is not without obstacles. Variations in access to technology, digital literacy, and institutional support can widen the gap between ideal pedagogical practices and real-world implementation. Teachers may also lack the necessary training or confidence to use media effectively in linguistically diverse settings. Ekanayake and Wishart (2015) pointed out that professional development tailored to local realities is crucial for empowering educators to make the most of educational media in challenging contexts.

Furthermore, media content must be carefully curated to ensure cultural relevance and sensitivity. Not all digital tools are created with multilingual or multicultural learners in mind, which can lead to exclusion or misrepresentation. Therefore, a thoughtful approach to media selection and adaptation is necessary, ensuring that content supports both language development and cultural inclusivity.

This study aims to explore the cross-cultural use of educational media in multilingual classrooms, examining both the pedagogical benefits and the systemic challenges. By comparing practices across different educational settings, it seeks to highlight best practices, promote equitable media integration, and provide actionable recommendations for educators and policymakers. Ultimately, the goal is to contribute to a more inclusive, adaptive, and culturally responsive education system that recognizes linguistic diversity as a strength rather than a barrier.

LITERATURE REVIEW

Educational Media in Multilingual Learning Environments

Multilingual classrooms represent an evolving pedagogical challenge and opportunity, given the increasing cultural and linguistic diversity across global education systems. In such settings, educational media plays a pivotal role in bridging linguistic gaps and enhancing instructional delivery. Educational media encompasses digital tools such as videos, simulations, interactive software, mobile learning apps, and digital storytelling platforms. These tools allow for visual, auditory, and kinesthetic learning strategies that cater to diverse learner profiles.

In multilingual environments, where students may not share the same level of proficiency in the language of instruction, the integration of multimedia becomes a pedagogical asset. Visual and auditory media can supplement textual information, helping students grasp concepts through multiple channels. For example, animations and video demonstrations allow learners to understand abstract ideas regardless of their reading fluency. This aligns with the theory of multimedia learning, which posits that learners benefit from integrating visual and verbal content (Oliinyk et al., 2024). Furthermore, digital tools facilitate translanguaging practices, where students draw upon their full linguistic repertoire to construct meaning. Media-rich environments often allow toggling between languages, voiceovers in multiple languages, or subtitle options, thereby fostering comprehension and participation without the stigma of limited fluency in the dominant classroom language (García et al., 2014). These tools not only support learning but also validate students' linguistic identities, which is

crucial for engagement and motivation.

However, while the benefits of educational media are clear, there are challenges related to access, teacher preparedness, and cultural sensitivity in content. Media must be carefully selected to avoid reinforcing cultural stereotypes or privileging certain linguistic groups. As such, educational media must be contextualized to ensure it aligns with the linguistic and cultural realities of the classroom.

Cross-Cultural Differences in Media Use

When comparing media use in multilingual classrooms across cultures, several distinctions arise in terms of accessibility, pedagogical approaches, and sociocultural expectations. For instance, in Scandinavian countries, there is a strong emphasis on collaborative learning environments where digital media is seamlessly integrated into daily lessons. In contrast, countries with more traditional educational systems may rely on teacher-centered models where educational media plays a supplementary role rather than a central one (Oliinyk et al., 2024). These differences are influenced by broader educational philosophies. Western education systems often emphasize constructivist principles, encouraging exploration and student autonomy through technology, whereas some Asian systems may prioritize structured learning and controlled media usage to maintain academic discipline. Therefore, cultural context significantly affects how media is selected, delivered, and received in the classroom.

Moreover, the availability of multilingual content and the digital literacy of teachers also vary across contexts. Teachers in high-resource environments may have access to institutional training, infrastructure, and a repository of media content aligned with curricular goals. Conversely, in low-resource settings, educators may struggle with outdated hardware, limited internet access, or a lack of culturally relevant media. This digital divide impacts how effectively educational media can be leveraged for multilingual learning (Oliinyk et al., 2024).

Cultural perceptions of media also influence classroom integration. In some societies, the use of educational games and interactive tools is seen as a distraction rather than an innovative approach to learning. This mindset may hinder the effective deployment of educational media despite its potential benefits (Cummins, 2000). In contrast, other cultures may be more inclined to embrace digital media as an essential part of modern education (Adedoyin & Soykan, 2020).

Teachers' Role and Perceptions

The successful implementation of educational media in multilingual classrooms heavily relies on the teacher's role. Educators act as facilitators, curators, and interpreters of media content. Their perceptions, technological competence, and willingness to innovate can determine the extent to which media enhances or detracts from the learning experience. Studies have shown that teachers who perceive digital tools as enablers of differentiated instruction are more likely to incorporate them regularly into their pedagogy. Such teachers understand that educational media can help meet the varied linguistic and cognitive needs of learners (Tallvid et al., 2016). For example, they may use visual glossaries, video prompts, or interactive storyboards to scaffold learning in multilingual environments.

Teacher training is critical for the effective use of educational media. Many educators feel underprepared to design or adapt media for multilingual classrooms, especially if their training did not include exposure to digital pedagogies or multilingual education strategies. Professional development initiatives that focus on both technical skills and cultural competence can bridge this gap, ensuring that teachers are equipped to effectively utilize educational media in diverse classrooms.

Furthermore, teachers' cultural backgrounds can shape their preferences and attitudes towards educational media. Educators trained in systems that emphasize rote learning may require a mindset shift to embrace more interactive and student-driven approaches. On the other hand, teachers who have experienced multilingual education firsthand often demonstrate a higher level of empathy and adaptability when using media to support learners from diverse linguistic backgrounds (Oliinyk et al., 2024).

Student Engagement and Learning Outcomes

Educational media has been shown to enhance student engagement, especially when it aligns with learners' interests and linguistic realities. In multilingual classrooms, engagement often hinges on whether students can access content in ways that resonate with their cultural and linguistic identities. For example, bilingual video content or interactive games in students' native languages can boost motivation and confidence (García & Wei, 2014). Research indicates that when students feel represented and understood, they are more likely to participate actively and retain information effectively (Cummins & Early, 2011). Digital storytelling projects, where students create narratives using multimedia tools, allow learners to express themselves in their preferred language while still meeting educational goals. This fosters not only linguistic development but also emotional connection to learning.

Additionally, the use of educational media supports self-paced and autonomous learning. In multilingual contexts, where learners may require additional time to process language or content, media tools offer the flexibility to pause, replay, and engage at an individual pace. This autonomy contributes to improved learning outcomes and reduces anxiety associated with language barriers. Nevertheless, over-reliance on digital tools without proper scaffolding can be counterproductive. Students may struggle with understanding instructions, especially if the media is not linguistically accessible. Therefore, the integration of educational media must be purposeful, supported by teacher guidance and culturally relevant content to yield optimal results.

METHODOLOGY

Research Design

This study adopts a qualitative research design utilizing focus group discussions (FGDs) as the primary method to explore the use of educational media in multilingual classrooms. A cross-cultural comparative approach was implemented to analyze how students and teachers in two culturally and linguistically distinct countries—Sweden (Country A) and Taiwan (Country B)—experience and engage with educational media tools in multilingual learning environments. This research design was chosen to gain an in-depth understanding of how individuals within specific cultural contexts engage with educational media in their classrooms.

The use of qualitative focus groups was essential because this method encourages in-depth, collective reflections allowing participants to build on one another's ideas and provide context-rich insights into their daily educational experiences. By fostering interaction among participants, the focus group approach captures diverse perspectives and promotes a deeper understanding of the complexities of educational media use.

The cross-cultural nature of the study allows for a comparative analysis between the two countries, focusing on the role of educational media in overcoming multilingual challenges and its influence on teaching and learning processes in multilingual settings.

Participants and Sampling

Participants were selected through purposive sampling which is appropriate for qualitative studies aiming to include individuals who have specific knowledge or experience relevant to the research topic. Schools were chosen for their known implementation of multilingual teaching strategies and their active use of educational media. This targeted sampling ensured that the selected participants were familiar with both the linguistic diversity of the classrooms and the technological tools used for teaching.

The study focused on upper primary and lower secondary levels where multilingual challenges and digital media usage are prominent. These education levels were selected because they represent critical stages in students' academic development and linguistic proficiency, and because they often involve an intersection of educational media tools and multilingual learners.

A total of eight focus groups were conducted, with the breakdown as follows:

- Four in Sweden: Two groups with teachers and two with students.
- Four in Taiwan: Two groups with teachers and two with students.

Each focus group consisted of 6 to 8 participants resulting in a total of 56 participants. This composition ensured a balanced representation in terms of gender language backgrounds and experience with educational media. By including both teachers and students, the study captured a holistic perspective on the use of educational media, addressing both the teacher's instructional strategies and the student's learning experiences.

Focus Group Procedures

Each focus group session lasted 60 to 75 minutes and followed a semi-structured guide which facilitated flexible discussions while ensuring that key topics were covered. The guide included the following focal points:

- The types of educational media commonly used in multilingual classrooms.
- The perceived effectiveness of media in enhancing language-inclusive teaching and learning.
- Barriers or challenges in using media for students from diverse linguistic backgrounds.
- Cultural differences in perceptions and preferences toward educational technology.

These guiding questions helped ensure that each focus group discussion explored the major themes and challenges surrounding the use of educational media in multilingual classrooms. Focus groups were conducted in

Swedish or Mandarin Chinese depending on the location and participants language preferences. The sessions were facilitated by bilingual moderators who ensured smooth communication and that no key details were missed due to language barriers. The focus group sessions were audio-recorded with participant consent ensuring that the data captured was accurate. The recordings were later transcribed and translated into English for analysis.

Data Analysis

Data were analyzed using thematic analysis following the six-phase model proposed by Braun and Clarke (2006). This model is commonly used in qualitative research to identify, analyze, and report patterns (themes) within data. The thematic analysis approach was chosen for its ability to capture both explicit and implicit patterns in participants' responses, allowing for the identification of commonalities and cultural nuances across the two countries.

The analysis began with the familiarization phase, where the researchers listened to the audio recordings and read the transcripts to gain an overall sense of the data. This was followed by initial coding where individual segments of text were identified as relevant to specific themes. In the subsequent phase, the themes were reviewed and refined to ensure that they represented both Sweden and Taiwan's educational media contexts accurately.

NVivo software was used to assist in the coding process and to organize and compare the data thematically between the two national contexts. The data were then analyzed to uncover both shared experiences and culturally specific insights related to the integration of educational media in multilingual classrooms.

Trustworthiness

To ensure the credibility and rigor of the research, several strategies were implemented:

- i. Triangulation of perspectives between teachers and students to provide a more comprehensive understanding of the educational media landscape.
- ii. Peer debriefing where researchers discussed emerging themes and potential biases to maintain objectivity.
- iii. Member checking in which summaries of discussion points were shared with select participants for feedback and validation.

Ethical Considerations

Ethical approval for the study was obtained from the institutional review boards in both Sweden and Taiwan. Prior to participating in the study, all participants were fully briefed on the study's purpose the nature of participation and their rights. This included the right to voluntary participation as well as the option to withdraw from the study at any time without penalty. Informed consent was obtained from all participants, and parental consent was also secured for students under the age of 18 to ensure that ethical guidelines for working with minors were followed.

RESULTS

The results of the focus group discussions conducted in Country A (Sweden) and Country B (Taiwan) revealed key insights into the use of educational media in multilingual classrooms. The findings emphasized the differences and similarities between the two countries in terms of media preferences, effectiveness, barriers, and cultural influences on the integration of media into teaching practices.

Educational Media Preferences

Country A (Sweden): Swedish participants favored digital learning platforms, with a strong inclination towards language learning apps, interactive software, and online videos. One teacher stated, "These tools allow for personalized and autonomous learning, which is key in a multilingual classroom. Students can learn at their own pace and focus on areas where they need the most support." Students echoed this sentiment, expressing a preference for interactive tools that allowed them to actively engage with content.

Country B (Taiwan): In Taiwan, there was a heavier reliance on e-books, digital flashcards, and structured online vocabulary practice tools. One participant noted, "While multimedia resources, such as videos, are useful for explaining new concepts, we prefer more structured tools to ensure students master the basics, especially in language learning." Taiwanese students mentioned that games and apps were engaging but sometimes failed to address deeper learning needs beyond vocabulary.

Perceived Effectiveness of Educational Media

Country A (Sweden): Teachers in Sweden emphasized that educational media played an essential role in enhancing engagement and student autonomy. One teacher remarked, "Students are more motivated when using digital tools that allow them to explore content individually, especially those from diverse linguistic backgrounds." Students appreciated the visual and auditory aspects of the tools, stating that these features helped them better understand new vocabulary and concepts.

Country B (Taiwan): Teachers in Taiwan felt that media were effective for vocabulary acquisition and listening comprehension. However, they cautioned about the risk of students over-relying on digital tools. A Taiwanese teacher mentioned, "While these tools are useful, we must ensure that they do not replace traditional methods entirely. Students need social interaction, which is sometimes limited with excessive use of technology." Taiwanese students, on the other hand, found interactive tools fun and helpful for improving participation, but expressed a desire for media to also foster critical thinking.

Barriers to Effective Use of Educational Media

Country A (Sweden): Despite the strong preference for digital tools, barriers were identified, particularly related to technical infrastructure and teacher preparedness. One teacher shared, "We face challenges with inconsistent internet connectivity and lack of training in how to effectively integrate digital tools into lessons." Additionally, students reported that some devices were not readily available for personal use at home, creating inequalities in access.

Country B (Taiwan): In Taiwan, the primary barriers included unequal access to technology in rural areas and the over-reliance on certain types of media. A Taiwanese teacher expressed concern: "In rural schools, not all students have access to the necessary devices, and that limits the effectiveness of media in classrooms." Furthermore, students in urban areas mentioned they felt that technology use was often limited to specific subjects, which felt restrictive.

Cultural and Contextual Influences on Educational Media Use

Country A (Sweden): Sweden's educational approach, which emphasizes autonomous learning and student-centered pedagogy, naturally facilitated the integration of educational media. Teachers noted that, "In Sweden, the focus is on empowering students to take ownership of their learning, and digital tools align well with this pedagogical approach."

Country B (Taiwan): In contrast, Taiwan's system, which values standardized testing and teacher-centered instruction, resulted in a more cautious approach to educational media use. A teacher from Taiwan said, "Although we see the value of digital media, the traditional exam-based system doesn't fully support integrating these tools into the curriculum."

Impact of Educational Media on Multilingual Classroom Dynamics

Country A (Sweden): The educational media in Sweden were seen as particularly effective in fostering an inclusive environment for multilingual students. Teachers noted that "digital tools allow students to access content in multiple languages, which is crucial for those still learning Swedish." Students shared that the ability to switch between languages in apps helped them engage with lessons and made learning more personalized.

Country B (Taiwan): Taiwanese teachers and students also recognized the importance of media in supporting English language learners, but some concerns were raised about the lack of tools that supported students' development in native languages. A teacher stated, "We rely heavily on digital media for English, but for students who speak dialects other than Mandarin, these tools do not offer much support."

Table 1. Comparative Study of the Use of Educational Media in Multilingual Classrooms in Sweden and Taiwan

Aspect	Sweden	Taiwan
Educational Media Preferences	Preference for digital learning apps, interactive software, and online video resources.	Focus on e-books, digital flashcards, and structured vocabulary practice tools.
Perceived Effectiveness	Personalized learning and student autonomy. Media help students engage and understand new concepts through visual and auditory methods.	Effective for vocabulary acquisition and listening comprehension, but concerns about over-reliance on technology.
Barriers to Effective Use	Technical limitations (e.g., internet access, device availability) and teacher training.	Unequal access to technology in rural areas and over-reliance on specific tools.
Cultural Influence on Media Use	Emphasis on student-centered pedagogy and autonomous learning supports media integration.	Traditional emphasis on teacher-centered instruction and exam-based systems leads to cautious media adoption.

Impact on Multilingual Dynamics	Media tools enhance language learning and inclusivity for multilingual students, particularly through language-switching features.	Media support English learners, but lack of support for students speaking dialects other than Mandarin.
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Comparative Analysis

The comparative analysis of the educational media use in Country A (Sweden) and Country B (Taiwan) highlights several distinct differences and a few similarities in how educational media is utilized in multilingual classrooms. The findings underscore the role of culture, technology infrastructure, and educational philosophies in shaping the effectiveness and implementation of educational media.

Educational Media Preferences

In both countries, digital tools are the primary choice for enhancing learning experiences. However, there are notable differences in media preferences between the two nations. Sweden shows a preference for interactive digital platforms, including language learning apps and online videos that cater to personalized and autonomous learning. This reflects Sweden's student-centered approach, which prioritizes individualized learning experiences. On the other hand, Taiwan relies more heavily on e-books, digital flashcards, and structured vocabulary tools. This preference aligns with Taiwan's more traditional approach to language learning, focusing on structured repetition and comprehensive language skills.

Perceived Effectiveness of Educational Media

The effectiveness of educational media in both countries is largely seen in its capacity to support language acquisition. In Sweden, the media tools are praised for enhancing engagement, promoting autonomy, and allowing students to work at their own pace. These characteristics make digital tools particularly effective in multilingual classrooms, where students may have varying levels of language proficiency. In contrast, Taiwan views educational media primarily as beneficial for vocabulary acquisition and listening comprehension. Teachers in Taiwan appreciate the benefits of media tools for these specific skills but are cautious about over-reliance on them for broader language development. The concern here is that interactive tools do not always foster the critical thinking or collaborative learning needed for more advanced language skills.

Barriers to Effective Use

Both countries face barriers in the effective integration of educational media, but the nature of the barriers differs. Sweden's challenges primarily stem from technical limitations, such as inconsistent internet connectivity and unequal access to devices, which can hinder the ability to fully integrate digital tools into classrooms. Additionally, the lack of teacher training on how to maximize the use of these tools also poses a challenge. On the other hand, in Taiwan, the main barrier is the unequal access to technology, particularly in rural areas, where students may not have the same access to digital tools as their urban counterparts. Furthermore, there is an over-reliance on specific tools, which can limit the flexibility and variety of educational media that teachers and students can use.

Cultural and Educational Influence

A key difference between the two countries lies in their educational philosophies and cultural context. In Sweden, the educational philosophy is student-centered, with a strong focus on autonomous learning. This allows for a seamless integration of digital tools, which promote independent exploration and self-directed learning. In contrast, Taiwan's educational system is traditionally teacher-centered, emphasizing structured learning and exam performance. This more traditional approach to education has led to a more cautious approach to adopting educational media, with a preference for structured and formal tools over more interactive or exploratory ones.

Impact on Multilingual Classroom Dynamics

The impact of educational media on multilingual classrooms is positive in both countries but with different emphases. In Sweden, educational media are seen as effective in fostering inclusivity by providing students with the opportunity to access content in multiple languages. This is particularly important in multilingual classrooms, where students are at varying stages of proficiency in the Swedish language. The language-switching feature of digital tools is particularly beneficial in this context. In Taiwan, while educational media are helpful for English language learners, the focus on Mandarin Chinese and standardized tests leaves a gap for students speaking local dialects. Media tools often lack support for these dialects, limiting their overall impact in multilingual settings.

DISCUSSION

This study explored the use of educational media in multilingual classrooms across two culturally and linguistically distinct countries — Sweden and Taiwan — through a cross-cultural comparative approach. By analyzing data from focus group discussions with both teachers and students, we sought to understand the role of educational media in multilingual education and the cultural and contextual factors that influence its effectiveness. The findings revealed both commonalities and differences in how these two countries engage with educational media within multilingual contexts, reflecting the varying educational philosophies and technology adoption patterns in each region .

Key Findings

A central finding of this study is the broad recognition of educational media as an important tool for promoting language learning and inclusivity in multilingual classrooms. This aligns with previous research highlighting the potential of digital tools to support diverse linguistic needs (Li & Walsh, 2011). Participants in both Sweden and Taiwan emphasized the usefulness of interactive platforms, language-learning apps, and digital videos, all of which contributed to engaging students across varying language abilities. These tools provided essential scaffolding for language acquisition, particularly through visual and auditory supports, a concept discussed by Shadiev et al. (2020) in their analysis of multilingual learning environments.

However, the specific types of media used and the extent of their integration into the classroom varied between the two countries. In Sweden, educational media was frequently integrated into immersive language programs, promoting real-world language use and communication. In contrast, Taiwan predominantly used educational media in a supplementary role, focusing on vocabulary acquisition and grammar skills, a trend also noted in previous studies on the use of media for language drills. These differences highlight the distinct educational priorities and teaching methodologies in each context.

The role of cultural perceptions was another key finding, particularly in how students and teachers interacted with educational media. In Sweden, a culture of learner autonomy encouraged students to use digital tools independently, with teachers fostering an environment that valued student choice in technology use. This approach mirrors the learner-centered educational philosophy discussed by Garcia and Wei (2014). Conversely, in Taiwan, the more teacher-centered approach led to students relying heavily on guidance before using educational media, a reflection of traditional educational norms. These cultural differences shaped the way educational media was perceived and utilized in the classrooms.

Barriers to Effective Use of Educational Media

Despite the positive views on educational media, both countries faced significant barriers to its effective integration. Technological limitations, such as unreliable internet connections and outdated devices, were prevalent, especially in Taiwan where infrastructure upgrades were still in progress. These technological challenges echo those identified by Shadiev et al. (2021), who found that infrastructure issues often disrupted the implementation of digital tools in multilingual classrooms.

Another challenge was the linguistic diversity among students, which complicated the customization of educational media to meet the needs of all learners. In Sweden, multilingual classrooms often included students from a variety of linguistic backgrounds, such as Arabic and Somali, whereas Taiwan faced its own challenges in accommodating a diverse student body with indigenous languages alongside Mandarin Chinese (Li & Walsh, 2011). Both groups of teachers highlighted the limitations of educational media tools, which often lacked sufficient language support for students who were not proficient in the dominant language. This is consistent with earlier findings that digital tools may fail to support more complex language tasks, such as writing or speaking in context.

Cultural Influence on Perceptions of Educational Media

The cultural influence on how educational media is perceived and used was a significant theme in this study. As noted by Mayer (2009), national educational systems heavily influence the way technology is incorporated into classrooms. Sweden's flexible, student-centered approach contrasts with Taiwan's more structured, teacher-guided use of educational media, reflecting deeper cultural attitudes toward education (García et al., 2014). These differences underscore the impact of cultural norms on the integration of educational media in multilingual learning environments.

Additionally, the digital divide was a recurring issue, with rural areas in both countries experiencing limited access to educational media due to a lack of devices and unreliable internet connectivity. This issue has been documented in prior research, which shows that such disparities can deepen existing educational inequalities. The study's findings align with the work of Tallvid (2016), who emphasized that access to technology is a critical factor in the effective use of educational media, especially in multilingual classrooms.

Implications for Educational Practice

The results of this study have several important implications for educational practice. First, educational media tools need to be adaptable to the linguistic and cultural needs of multilingual learners. This includes providing varying levels of support, from basic vocabulary learning to more complex tasks like writing and speaking in context (Shadieff et al., 2021). Tools should also offer options for native language support to better serve diverse student populations (Cummins & Early, 2011).

Second, there is a clear need for enhanced professional development for teachers, particularly in how to effectively integrate digital tools into multilingual classrooms. Teachers in both countries expressed the need for more comprehensive training in the pedagogical and technical aspects of educational media, an issue that has been identified in previous studies on the integration of technology in language education (Li & Walsh, 2011). This suggests that targeted professional development programs could help teachers better leverage educational media to support multilingual learning.

Finally, addressing technological limitations should be a priority. Ensuring that schools have access to up-to-date devices and reliable internet is essential for the successful integration of educational media. Both Sweden and Taiwan must invest in infrastructure to ensure that all students, regardless of their socioeconomic background, have equal access to educational media, thus reducing the digital divide and promoting more equitable learning opportunities.

CONCLUSION

This study explored the use of educational media in multilingual classrooms across two distinct cultural contexts — Sweden and Taiwan — providing valuable insights into the integration of digital tools for language learning in diverse environments. The findings reveal that while both countries recognize the potential of educational media to support language acquisition and promote inclusivity, the approach to its integration varies significantly due to cultural, educational, and infrastructural differences.

In Sweden, educational media was seen as an essential component of language immersion programs, with a strong emphasis on student autonomy and interactive tools that facilitated real-world communication. This approach aligns with Sweden's learner-centered educational philosophy, which encourages independent learning and flexibility. In contrast, Taiwan's educational media usage was more supplementary, with a teacher-centered approach that emphasized structured language drills and exercises, reflecting the country's more traditional educational system.

Both countries faced similar challenges in terms of technological limitations and the diverse linguistic backgrounds of students. In both Sweden and Taiwan, unreliable internet access, outdated devices, and inadequate language support in educational media tools hindered the effective use of these technologies in multilingual classrooms. Furthermore, the digital divide between urban and rural areas posed an additional challenge to equitable access to educational media, exacerbating existing inequalities.

The study underscores the importance of culturally sensitive educational media that can accommodate the varying needs of multilingual learners. It also highlights the necessity of professional development for teachers to better integrate these tools into their classrooms. Finally, addressing the technological limitations through infrastructure investment and ensuring equal access to educational media for all students are crucial steps toward enhancing the learning experience in multilingual contexts.

This research contributes to the growing body of literature on the role of educational media in multilingual classrooms and offers practical insights for educators, policymakers, and researchers aiming to optimize the use of technology in language learning. By understanding the cultural and contextual factors that influence the use of educational media, it is possible to develop more effective strategies for promoting language learning and fostering inclusivity in multilingual environments. Future studies could explore the long-term impacts of educational media on language proficiency and student engagement, particularly in diverse and under-resourced settings.

LIMITATIONS

This study has several limitations. First, the sample size of participants from Sweden and Taiwan was relatively small, limiting the generalizability of the findings. Additionally, the study focused primarily on the

perceptions of teachers and students, and did not consider the perspectives of educational policymakers or technology developers, which could provide further insights into the challenges and opportunities of integrating educational media. Finally, the study did not examine the long-term effects of educational media on language acquisition and student engagement, which would be valuable for understanding the sustained impact of these tools.

FUTURE DIRECTIONS

Future research could expand the sample size to include a broader range of multilingual contexts and more diverse cultural settings to offer a more comprehensive understanding of the role of educational media in language learning. Additionally, investigating the impact of specific types of educational media on language proficiency and student outcomes, as well as exploring the perspectives of other stakeholders such as policymakers and tech developers, would provide a deeper understanding of how to optimize the integration of digital tools in multilingual classrooms.

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