INTEGRATING TECHNOLOGY INTO EFL CLASSES FOR YOUNG LEARNERS: CHALLENGES AND THE IMPLEMENTATION OF SAMR MODEL

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Abstract

This qualitative study explores the integration of technology in EFL (English as a Foreign Language) classrooms for young learners, focusing on the challenges and the application of the SAMR (Substitution, Augmentation, Modification, Redefinition) model. Using narrative inquiry through interviews and documentation, the research identifies key challenges, including limited access to digital devices, reliance on parental involvement, difficulties in maintaining student motivation, and challenges in finding curriculum-aligned digital materials. In terms of SAMR implementation, the teacher primarily apply substitution, replacing traditional tools with digital versions like e-textbooks and PDFs, and augmentation, where technology enhances tasks through online quizzes and internet-based material exploration. However, the modification and redefinition stages have not been implemented, largely due to access limitations and the developmental stage of the learners. The findings highlight the need for thoughtful integration of technology that accounts for young learners' readiness and ensures they are the primary beneficiaries. Integrating digital tools should go beyond trend adoption and focus on creating meaningful, accessible, and motivating learning experiences.

Keywords: technology, SAMR, EFL, young learners, narrative inquiry

INTRODUCTION

In language learning, the integration of technology into classroom practices has become a trend in recent decades due to its benefits in promoting more effective teaching. Not only are technologies used to teach adult learners, they are also adopted in teaching English for young learners. Especially in English as a Foreign Language (EFL) teaching and learning process, integrating technologies since early age can facilitate language learners in experiencing more varied language usage and authentic materials. The integration of technologies in language teaching for young learners can be seen in various ways. Research indicates that young language learners often struggle with attention and motivation during extended learning sessions. Properly integrated technology through fun

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and interactive tools can transform the learning environment into one that is engaging and effective (İlter, 2015).

Several studies have reported the implementations, benefits, challenges, as well as the strategies in integrating technologies into EFL classes. In elementary school contexts, digital applications (e.g., iPad-based tools) have been shown through randomized controlled trials to significantly enhance young learners' grammar comprehension, satisfaction, persistence, and confidence, outperforming digital textbooks (Hori et al., 2025). Additionally, technology-enhanced learning interventions effectively strengthened collaboration skills in high school EFL students, improving idea generation, peer feedback exchanges, and engagement during joint writing tasks (Riswandi et al., 2023).

On the other hand, integrating technology into classroom context are still challenging in several ways as reported on previous studies. EFL teachers often face challenges in integrating technology due to limited training, insufficient knowledge, and a lack of resources. Factors such as large class sizes, limited access to digital tools, and inadequate internet connectivity further complicate implementation. Additionally, teachers' own English proficiency, low confidence in using technology, and time constraints within the curriculum can hinder effective integration in the classroom (Copland et al., 2014; Garton, 2014).

To counter the challenges, effective teaching strategies for young English language learners involve addressing both motivational and interactional aspects to overcome common challenges. Research shows that providing learners with appropriately challenging tasks within their Zone of Proximal Development enhances motivation and engagement (Zepeda et al., 2020). Additionally, parental involvement plays a crucial role; active participation through audio-visual aids and tutoring improves learners' proficiency, although parental language skills and student motivation remain potential barriers(Murshidi et al., 2023). Interactive classroom techniques, such as dialogic and reciprocal interactions, foster meaningful communication critical for language development in early childhood (Houen et al., 2022). Cooperative learning approaches like the Jigsaw technique have been found to enhance students' academic motivation, resilience, and self-efficacy(Wang et al., 2023). Moreover, scaffolding combined with

encouraging learner autonomy supports motivation and sustained engagement (Alfares, 2025). Integrating these strategies helps educators create supportive, effective environments tailored to the diverse needs of young EFL learners.

One of the models in integrating technology into classroom activities is SAMR model. This model has become a prominent model in integrating technologies into classroom teaching and learning activities. The SAMR model, developed by Dr. Ruben Puentedura, is a framework designed to guide educators in integrating technology into teaching and learning. It categorizes technology use into four levels: Substitution, Augmentation, Modification, and Redefinition. At the Substitution level, technology acts as a direct substitute for traditional tools, with no functional change. Augmentation introduces functional improvements, enhancing the learning experience. Modification allows for significant redesign of tasks, enabling more dynamic and interactive learning activities. Finally, Redefinition enables the creation of new tasks that were previously inconceivable, transforming the learning experience. This model encourages educators to reflect on how technology can enhance and transform learning, rather than merely replacing traditional methods (Puentedura, 2018).

Among the previous research conducted on technology integration into EFL class, the challenges discussed tended to focus on the facility, teacher's readiness, and supporting training, paying more attention on the policy and curriculum aspects. Less are focusing on how the teacher manage the EFL class. To fill this gap, this current study shed some light on how an EFL teacher integrates technology to her class which consist of young learners (aged 6-7 years old) in an international school in Surakarta, Indonesia. The school facilities are good and teacher training are provided. The findings contribute to provide information from real teaching experience and bring implications for better facilitating teachers and students in implementing technology-integrated learning for young learners. Therefore, to guide this study, the following research questions were formulated to explore key aspects of integrating technology into EFL classes for young learners and the application of the SAMR model:

1) What are the challenges in integrating technology into EFL class for young learners?

2) How is the implementation of SAMR model in integrating technology into EFL

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class for young learners?

RESEARCH METHOD

Narrative inquiry was utilized as the primary method to collect data for this study, allowing for an in-depth exploration of the lived experiences of an English teacher (Teacher APR) with 10 years of teaching experience. This qualitative approach is effective for capturing rich, detailed accounts that provide insight into personal and professional perspectives (Clandinin, 2006). Data were gathered through several semi-structured interviews, which offered flexibility for participants to share their stories while allowing the researcher to probe for deeper understanding (DiCicco-Bloom & Crabtree, 2006). Additionally, relevant documentation was collected to supplement and triangulate the interview data, enhancing the depth and breadth of the findings(Bowen, 2009). Thematic analysis was employed to systematically identify, analyse, and report patterns within the data, facilitating a clear organization of themes relevant to the study's objectives (Braun & Clarke, 2006). To ensure the trustworthiness and credibility of the findings, member checking was conducted by sharing the interpreted data with the participant for validation, a widely recommended strategy in qualitative research to enhance accuracy and authenticity (Birt et al., 2016). This methodological rigor supports the reliability of the study's conclusions regarding technology integration in EFL teaching.

RESULTS AND DISCUSSION
Challenges in integrating technology into EFL class for young learners

This study has revealed several challenges in technology-integration into EFL class for young learners. The thematic analysis indicated four main challenges, namely limited access to digital devices, reliance on parental involvement, difficulties in maintaining student motivation due to lack of language proficiency, and challenges in finding curriculum-aligned digital materials. The following findings, equipped with necessary data taken from semi-structured interviews and documentation, give deeper understanding of the teacher's experiences in using technology in her EFL class.

Students' limited access to digital devices

The first challenges indicated from the thematic analysis was about the limited access to digital device. Integrating technology in today's era is more about using digitalized learning sources as well as learning activities. Access to technology refers to the ownership and the capability to use it. In classroom practice, the use of technology was still centred on the teacher, with the students participated in limited ways due to lack of device ownership.

> *"My students do not bring handphone or tablet or laptop to school, I mean they are not even allowed to do so. That is why, the use of technology is still limited to present learning materials, ice breaking, and sometimes for quiz or other activities with adjustment because the students cannot do it as it should be."* (Teacher APR, interview)

Further, teacher APR talked about the adjustment she did at class.

> *"You know, when we use Kahoot! for example, it will be so fun if the students can compete and do the quiz together. Since the do not have the device, so we answered it manually and I help my students to click the answer. Sometimes, I invite them to click by themselves."* (Teacher APR, interview)

Meanwhile, the limited capability to use technology also contribute as the challenges. While students today are familiar with digital device, it does not guarantee that they are familiar with learning tools. Therefore, the teacher still needs to assist the students to learn using technology. About this, teacher APR explained as follows.

> *"Ya, they are close and familiar with handphone or iPad or other devices, but maybe they use them more for entertainment, maybe playing video games or watching video. For learning, they are not that familiar and I need to guide them like form basic. Not all students, you know, have the same level of familiarity with tools for learning."* (Teacher APR, interview).

The finding that limited access to digital devices remains a significant challenge aligns with existing research highlighting the persistent digital divide in educational settings. Access to technology encompasses not only the availability of devices but also users' capability to effectively utilize them(Van Deursen & Van Dijk, 2019). This limitation often results in technology use being teacher-centred rather than learner-centred, as students' participation is constrained by a lack of personal devices. Moreover, without equitable access, the potential benefits of technology integration, such as increased engagement, personalized feedback, and authentic language practice, may not

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be fully realized. Addressing device accessibility is thus critical to transforming technology use from teacher-dominated instruction to active, student-centred learning environments that empower young learners to engage meaningfully with digital tools.

Reliance on parental involvement

The first challenge regarding the limited access to technology is closely related to the second challenge, namely reliance on parental involvement. Since younger students are less capable in using technology for learning purposes and lack of learning device, parents' roles are dominant. The presence of parental involvement has played a prominent rule in succeeding technology-integrated learning since they provide the device and assistance, especially outside the class.

> *"You know, many of my students do not have their own device so they still share with their parents.* (Teacher APR, interview)

The challenge of limited access to technology is intricately linked to the reliance on parental involvement, particularly for young learners who lack the skills and resources to independently navigate digital learning environments. Young students often depend on parents to facilitate their use of technology, provide guidance, and support learning activities (Balayar & Langlais, 2022; Murshidi et al., 2023). However, this reliance presents a significant barrier, as not all parents possess time or resources to effectively support their children's learning. This disparity can exacerbate educational inequities, especially in EFL contexts where parental support is critical for reinforcing language acquisition outside the classroom. Moreover, the pressure placed on parents to act as co-educators may lead to stress and reduced engagement if they feel unprepared or overwhelmed (Abo Hamza & Elsantil, 2023). These findings suggest the need for schools to explore alternative strategies that reduce over-reliance on parental facilitation while promoting learner autonomy.

Difficulties in maintaining student motivation due to lack of language proficiency

Teacher APR revealed that students' motivation in joining technology-integrated learning experience ups and downs. The fact that English is not familiar some students

has sometimes resulted in unequal participation on class. It also affects the students' engagement. Some students still need assistance in completing classroom instruction.

> *"Also, sometimes they less focus on the lesson, when listening to teacher's instruction and explanation. Some students still need support to listen and repeat correctly."* (Teacher APR, interview)

The use of digital tools is considered helpful since it helps them to visualize the learning materials better through video. It confirms the previous research which reported that the use of video makes it easier for young learners to see real examples of objects, even if only on video, thereby reducing excessive cognitive load (Astutik et al., 2022). Moreover, ice breakings, such as dancing, singing, clapping hands, and short funny videos help the students to be more relaxed and at the same time make them recognize and practice English.

Realizing the students have diverse levels of language proficiency, the English teacher should be able to implement sound strategies. To create an effective and inclusive learning environment, teachers must actively engage in learning the language of their students. It ensures that teaching methods are pedagogically sound, aligning with learners' needs, backgrounds, and levels of proficiency. By understanding their students' linguistic realities, teachers can foster deeper engagement and promote more meaningful language development (Copland & Yonetsugi, 2016).

Challenges in finding curriculum-aligned digital materials

Teacher APR explained that the textbook available is not equipped with the digital version of the learning materials, but only provided the recording for listening activities. Meanwhile, the teachers should arrange or create the learning video or other teaching media. She explained that using video from YouTube could be another choice.
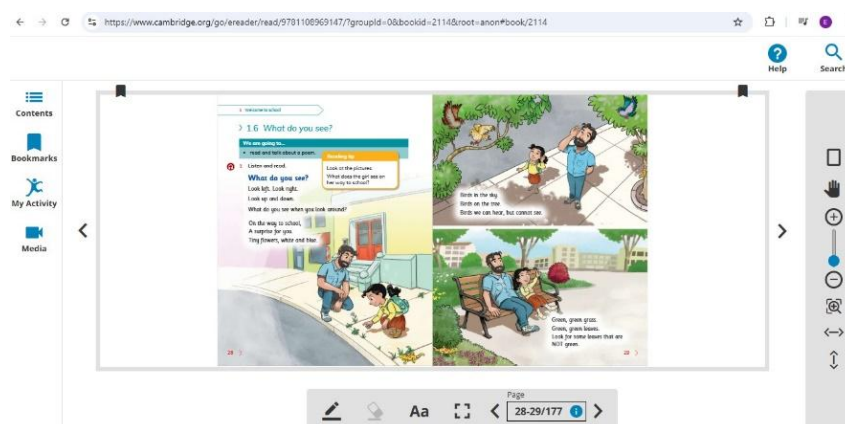
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Figure 1. The textbook with recording for listening activity

"No, it only contains the listening activity. I should create the other media by myself. On YouTube there are many videos that we can use. It is quite helpful." (Teacher APR, interview)

A significant challenge identified is the difficulty in finding digital materials that align with the prescribed curriculum. As Teacher APR noted, while textbooks may offer limited digital support—such as audio recordings for listening activities—they often lack comprehensive digital versions or multimedia resources that fully complement the curriculum. This gap requires teachers to invest additional time and effort in sourcing or creating appropriate teaching media, which can increase their workload and potentially affect the quality of instruction (Huang et al., 2020). Research highlights that the availability of curriculum-aligned, high-quality digital content is crucial for effective technology integration in classrooms, as it ensures coherence between learning objectives and digital activities. Although freely available resources like YouTube videos present a practical alternative, teachers must carefully evaluate their relevance and accuracy to maintain curricular consistency and educational standards (Blackwell et al., 2014). Addressing this challenge requires greater collaboration between curriculum developers, educational publishers, and teachers to provide readily accessible, curriculum-aligned digital materials that support meaningful learning experiences.

The implementation of SAMR model in EFL class for young learners

Substitution stage

Integrating technology to classroom practices includes several stages which indicate the gradual change in the use of teaching modality, from conventional to technology-integrated teaching and learning process. From the data analysis, the school has implemented substitution and augmentation stages. Meanwhile, the modification and redefinition have not been fully implemented.

The substitution stage refers to the most basic level of technology integration where a digital tool acts as a direct substitute for a traditional tool, with no functional change to the task. Essentially, technology replaces an old method but does not enhance or transform the learning experience. In this stage, the teaching materials and worksheets are made into digital version. It is especially to be delivered to the parents so that they can access the learning materials presented at school and help their children to review it at home. Meanwhile, for classroom exercise students still mainly use their textbook. The PDF version of the learning material was also used to substitute the use of whiteboard.

> *"Once again, because the students do not have their own device, so technology integration in my class mainly for material delivery and ice breaking. I like using video in my teaching because it is more concrete ya, especially by its moving picture, and students are getting more excited."* (Teacher APR, interview)

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Figure 2. The digital worksheet in PDF version

The substitution stage in the SAMR model represents the most basic form of technology integration, where digital tools directly replace traditional ones without altering the task's core function. In this study, teacher APR utilized digital presentations and converted textbook materials into PDF formats primarily for ease of distribution and parental access, reflecting a direct substitution rather than transformation of learning activities. This aligns with studies showing that substitution often serves as an initial step in technology adoption, especially when learners lack personal devices, limiting more interactive engagement (Al-Fraihat et al., 2020). Using videos as part of the lesson, as Teacher APR mentioned, adds a level of engagement by making concepts more concrete and visually stimulating, which can enhance student motivation despite the limited functional change (Valverde-Berrocoso & Fernández-Sánchez, 2020).

However, reliance on textbooks and worksheets for classroom exercises indicates that technology use remains supplementary and has yet to impact pedagogical practices significantly. This is consistent with research suggesting that without sufficient access and professional development, technology integration remains at substitution and does not reach higher levels that promote active, student-centred learning (Santos & Castro, 2021). Therefore, while substitution facilitates initial adoption, advancing technology integration requires addressing access limitations and supporting teachers in redesigning learning experiences.

Augmentation stage

The augmentation stage is characterized by a direct substitute for a traditional tool but with added functional improvements that enhance the task. This means the core activity remains the same, but the technology provides additional features that improve the user experience, increase efficiency, or offer new capabilities that support learning. The use of PowerPoint with embedded videos, online presentation, and learning video dominates the technology-integration. Using learning video is considered more engaging

and motivating for younger students.

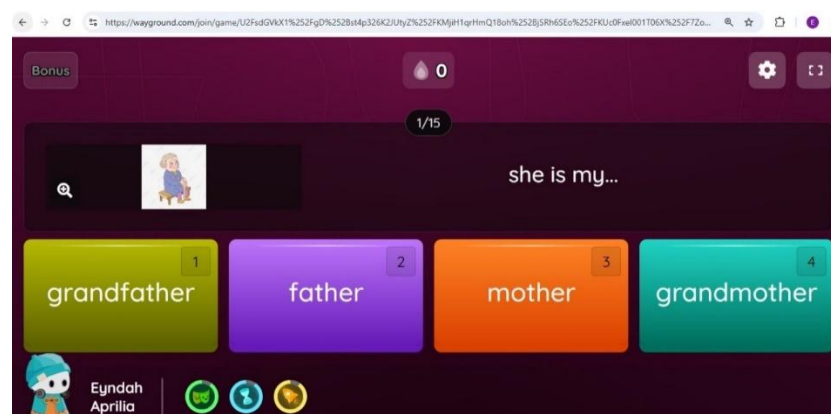Figure 3. The use of video in the material presentation

Figure 4. The use Quizziz for classroom activity

Online quiz was also used in the class for daily activities as well as for homework. Nevertheless, due to limited devices, it must be modified as explained by teacher APR.

> *"Ya, I help the students to answer the quiz on my laptop. I make some groups. When they want to answer, they would come forward and click the answer on my laptop. They look enjoy the games."* (Teacher APR, interview)

The findings of this study indicate that the augmentation stage of the SAMR model was marked by the teacher's use of digital tools that not only substituted traditional methods but also offered functional improvements that enhanced the learning experience.

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Teacher APR's integration of PowerPoint presentations embedded with videos and the use of online learning videos demonstrates how technology can increase learner engagement and motivation without fundamentally altering the instructional task. This aligns with findings by Zydney & Warner (2016), who emphasize that the use of multimedia tools, such as instructional videos, can support comprehension and maintain attention, particularly among younger learners. The shift from static to interactive content also enhances the delivery of material and allows teachers to present concepts in more dynamic and accessible ways (Vardar & Çoban, 2021). Although the core activity, the content presentation, remains unchanged, the enriched functionality supports improved cognitive processing and offers a more stimulating learning environment. This indicates that augmentation can serve as an important bridge between basic digital substitution and more transformative teaching practices, especially in contexts where students have limited access to personal devices and rely on teacher-led instruction.

The data revealed that the technology integration in the observed EFL classroom had not yet reached the Modification and Redefinition stages of the SAMR model. These stages require not only substituting and enhancing existing tasks but also transforming them by designing new learning experiences that would be impossible without technology. However, several constraints prevented this level of integration. First, the lack of student access to digital devices significantly limited opportunities for students to engage with interactive or collaborative digital tasks. As noted by Van Deursen & Van Dijk (2019), disparities in digital access remain a key barrier in achieving deeper forms of technology integration in many educational settings. Second, the teacher's use of technology remained largely teacher-centred, focusing on content delivery through presentations and videos rather than enabling student-driven activities or higher-order thinking tasks that characterize the upper levels of SAMR. This aligns with findings from Harris et al., (2009), who argue that without sufficient training, confidence, and pedagogical support, many teachers struggle to shift from enhancement to transformation. Furthermore, time constraints and the pressure to follow a textbook-based curriculum left little room for redesigning tasks or incorporating project-based, collaborative digital learning experiences. Thus, while Augmentation was effectively implemented to enhance engagement and comprehension, the conditions for progressing to Modification and

Redefinition were not yet present.

CONCLUSIONS

The study has revealed several key challenges in integrating technology into classroom practices, namely limited access to digital devices, reliance on parental involvement, difficulties in maintaining student motivation, and challenges in finding curriculum-aligned digital materials. Among the four stages of technology-integration into classroom teaching and learning process, the teacher has applied substitution and augmentation stages. The substitution was done by replacing traditional tools with digital versions like e-textbooks and PDFs. Meanwhile, the augmentation stage was indicated by the use online quizzes, PowerPoint presentation and internet-based material exploration. The modification and redefinition stages have not been implemented, largely due to access limitations and the developmental stage of the learners.

These findings imply several key points, including the need to invest in equitable access to digital devices for students to enable more student-centred, interactive, and challenging learning experiences. Moreover, curriculum developers should collaborate with educators to provide curriculum-aligned digital materials that reduce the burden on teachers to create content from scratch. Lastly, parental engagement in early education needs to be optimized to ensure consistent support at home. This study was only conducted in one place with one participant using narrative inquiry which limit the generality of the findings. Therefore, further studies may involve more participants as well as different level of education to see the implementation of technology-integrated learning.

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