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Intermediate Phase English First Additional Language Teachers' Use of Technology in Rural Schools of Limpopo

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Abstract: Teachers' access to technology in this day and age could have a positive effect on the teaching and learning of English First Additional Language (EFAL). This qualitative interpretive case study explored how limited access to technology resources affects the teaching practices of Intermediate Phase EFAL teachers in rural schools in Limpopo, South Africa. This study, underpinned by the Technology Acceptance Model (TAM), conducted semi-structured interviews to collect data from ten EFAL teachers who were purposively sampled. Thematic analysis was used to analyse the data. The study revealed that three of the ten EFAL teachers sampled integrated technology into their teaching despite challenges such as insufficient projectors, lack of learners' smartphones and data bundles, and Internet connectivity. However, the other seven sampled participants did not use technology, citing a lack of digital tools and knowledge as a contributing factor. The study concludes that the lack of resources contributed to limited or no use of technology and the motivation to integrate technology into their lessons. Based on these findings, it is recommended that technological resources that can help EFAL teachers with digital teaching be made available so that they can integrate them to assist learners in developing language skills. Furthermore, in-service training and ongoing support should be provided to EFAL teachers to give them knowledge and skill to use available technology resources effectively.

Keywords: *Digital devices, English First Additional Language, Intermediate Phase, limited technology resources, rural teachers.*

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Introduction

Information and communication technology (ICT) has become a significant tool in teaching, aligning teaching pedagogies for learner development to the Fourth Industrial Revolution (4IR) requirements. Bećirović et al. (2021) assert that teaching using technology has significantly enhanced learners' English First Additional Language (EFAL) acquisition and freed them from the confines of the conventional classroom environment. For example, teachers' use of social media with platforms like WhatsApp and YouTube can benefit learners through effective listening comprehension, practising correct pronunciation, and repetition using digital speech technology. However, Eleyyan (2021) indicates that teachers must use a learner-centred approach to assist learners in developing technical skills, critical thinking, coordinating with others, and verbal communication, which are requirements of the 4IR.

In many areas of South Africa, access to technology is a challenge for several reasons. Aruleba and Jere (2022) indicate that South Africa faces high poverty levels, inequality, unemployment, and low literacy levels, and a challenge with the dominant English language mainly used on the Internet. This situation is mostly experienced in rural areas where schools still lack access to digital resources in the teaching and learning process. In support of this, Malinga (2022) indicates that most rural South African schools lack internet access and are not equipped with technological tools. Jerry and Yunus (2021) indicate that a lack of adequate technical resources, such as computers and access to Wi-Fi or data bundles for Internet connectivity, may discourage teachers from utilising technology which would lead to a learner-centred, activity-driven approach in contrast to traditional learning and teaching practices and denying learners the benefits brought about by technology. The use of technology in education simplifies and empowers the

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teaching/learning process, ensuring that learners are engaged, motivated, and interested, which facilitates their learning.

This paper argues that the lack of adequate technology resources hampers the effectiveness of EFAL teaching in the Intermediate Phase of schools located in rural Limpopo, thus necessitating targeted interventions. However, if teachers are encouraged to use technology to teach English as an internationally recognised language of communication, it will enhance their digital practices and may contribute to the knowledge and skills of learners for their future careers.

Information communication technology (ICT) integration in teaching refers to incorporating computer-based communication into the usual teaching process in the classroom (Ghavifekr & Rosdy, 2015). Teachers are viewed as significant agents, facilitating the process of teaching, and in this paper, this refers to the teaching of EFAL using ICT in a modern digital environment. A study by Raja and Nagasubramani (2018) revealed that teachers' usage of technology equipment such as laptops, tablets and smartphones and digital platforms like YouTube and WhatsApp increases learners' interaction in learning an additional language.

The usage of technology in schools varies greatly across South Africa. For instance, private and former Model C schools (previously whites-only schools) have better access to technology compared to the township and rural schools, which are attended by African children (Parker et al., 2020). The limited access to technology in poor rural schools affects the meaningful and effective teaching of the EFAL in preparation for 4IR requirements (Nokwali et al., 2015). This could lead to a lack of language acquisition that might influence modern communication needs.

This study is significant since most studies on using technology for learning and teaching focus on high schools and higher education institutions. However, there seems to be a paucity of studies concentrating on the Intermediate Phase (Grades 4, 5, and 6) and schools located in remote areas, especially in teaching EFAL. Again, digital tools, such as interactive learning platforms like WhatsApp and YouTube, make EFAL learning more engaging and accessible especially where learners need to practice listening, speaking, reading, and writing skills. Technology can provide teachers and learners with access to quality teaching and learning materials, teaching tools, and teaching aids that might not otherwise be available in rural areas. Given the above context, the inquiry aimed to explore how technology resources affect the teaching practices of Intermediate Phase EFAL teachers in rural Limpopo schools and propose improvement recommendations. The research question guiding this paper is: How do technology resources affect the teaching practices of EFAL teachers in the rural Intermediate Phase of the province of Limpopo?

Literature Review

The Department of Education's (2004) White Paper aimed to ensure that every school has access to a wide choice of diverse, high-quality communication services that will benefit all learners and local communities. The objective is to build digital and information literacy so that all learners become confident and competent in using technology to contribute to an innovative and developing South African society. However, van Greunen et al. (2021) study found that the role of ICTs in rural education is not described in detail as an enabler of teaching and learning. The results reveal a marginal increase in the overall connectivity maturity of schools and that access is more readily available to teachers. However, access for learners is still lacking in most instances of those who participated in the study.

Theoretical Framework

This study is underpinned by the Technology Acceptance Model (TAM) (Davis, 1980), which predicts and evaluates the user's willingness to accept a particular technology Harryanto et al. (2018) postulate that TAM offers a framework that helps monitor the effect of external and internal factors on technology acceptance. The proponents of TAM believe that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are key to influencing the user's intention to accept and use certain technologies (Pal & Vanijja, 2020). This suggests that PU and PEOU influence teachers' willingness to accept and integrate technology into their teaching practices. The belief that using a certain technology will boost performance is known as PU, while the belief that using a particular technology will be free of effort. is known as the PEOU (Davis, 1980). In the context of this study, PU implies that EFAL teachers will more likely be open to using technology in their teaching if they believe it would boost their pedagogical practices. On the other hand, PEOU suggests that EFAL teachers believe integrating technology in their teaching would be easy. Pal and Vanijja (2020) suggest that the more the person believes that using a particular technology is useful, the greater will be the usage intention.

Despite the wider adoption of TAM in studies across different contexts, shortcomings have been associated with TAM. Teo and Jarupunphol (2015) criticised TAM for "being too parsimonious because it does not specify external factors that may influence the user's acceptance of technology". This criticism is valid because external factors such as lack of technologies and technological infrastructure may influence teachers' acceptance and use of technology. Hence, PU and PEOU should not be considered absolute determinants of technology acceptance and use by teachers. Tsai (2015) also criticised TAM for only providing general information concerning accepting a specific technology. This assertion suggests that TAM assumes that PU and PEOU determine the user's acceptance and use of any technology, which may not always be the case, as technology-related factors, such as technology affordances, may influence the user's acceptance and use of technology.

Despite the shortcomings of TAM, as discussed above, this theory was deemed relevant to this study as teachers' integration of technology into their practice may play a crucial role in their teaching of EFAL. Likewise, the theory was utilised to study the literature and underlined that teachers accept technology by using a wide range of available resources, such as YouTube videos, to help learners guess the meaning of new words and improve their speaking competence (Albahlal, 2019). TAM was, therefore, appropriate since it allowed the researchers to work from an interpretivist paradigm that explains why and how particular individuals behave and act in specific ways. According to Mulisa (2022), this paradigm offers researchers the opportunity to describe the day-to-day activities of participants and their significance in detail, which, in this study, was EFAL Intermediate Phase teachers' description and explanations of their use of technology in the teaching of EFAL. Again, this paradigm allowed the researchers to view the data from an interpretivist standpoint, which is aligned with the study's findings.

Digital Platforms and Devices Used for Teaching EFAL

Digital platforms are recognised as a sustainable learning environment that facilitates interaction between teachers and learners in an online space. They provide a flexible environment for effective teaching and learning, free from time and place restrictions (Alshammary & Alhalafawy, 2022). Teachers can support learners beyond traditional teaching hours, while learners are encouraged to continue learning outside of school hours and access content from any location. The advantages of technology-driven learning environments, which support learner-centred education, motivation, and autonomy in the learning process, are also highlighted by Moldavan et al. (2022) in their study.

The transition from traditional face-to-face teaching to digital methods is now essential. Al-Abdullatif and Alsubaie (2022) stress the significance of incorporating digital platforms in classroom teaching, as they have the potential to enhance teaching performance and improve learners' literacy skills. Digital technology not only makes learning enjoyable for both learners and teachers but also provides flexibility in completing school activities by enabling learners to engage with content beyond the classroom and set their own learning pace. To fully realise these benefits, teachers must identify suitable digital teaching platforms that align with their specific context.

Although the adoption of digital platforms has been accelerated by the COVID-19 pandemic, they were already being used in some schools before the pandemic. The extent of their usage varies, with schools in more affluent areas having access to multipurpose platforms such as Amazon, Facebook, Google, Zoom, or Microsoft Teams due to their affordability (Garcia & Nichols, 2021). On the other hand, schools in less affluent or rural locations tend to rely on their perception of the value of technology integration in teaching and how accessible it is. Platforms like ClassDojo, Google Classroom, or widely used social media platforms like WhatsApp facilitate classroom management, communication with parents, and the assignment of additional work to be completed at home, which are commonly accepted in this context (Vonog et al., 2021).

In light of the COVID-19 pandemic, research has highlighted the urgent need to embrace digital platforms for teaching and learning. According to Tatlici et al. (2021), distance learning was made possible in primary and secondary schools in Turkey during the pandemic using platforms such as Zoom, Class Dojo, WhatsApp, and Google Classroom. Similarly, in India, Alshammary and Alhalafawy (2022) reported on the widespread use of video conferencing platforms to mitigate the challenges of distance learning. In contrast, Maree (2022) highlighted the difficulties many South African schools faced and continue to face in transitioning to digital learning platforms, particularly in rural areas. Affordability has become a significant barrier, with digital communication platforms used primarily in more privileged areas. Consequently, using digital platforms to teach and learn EFAL in South Africa differs according to geographical location and economic disparities.

For teachers and learners to access different digital platforms, they need access to digital devices. These devices include desktop computers, laptops, tablets, smartphones, and even hybrid devices such as 2-in-1 laptops or convertible tablets. For several decades, desktop computers have been widely recognised as the primary digital device during the technology era (Aruleba et al., 2022) and were commonly used in various domains, including education. However, with advances in technology, laptops have become another popular digital device in recent years. Continuous improvements in digital devices and their increasing prevalence in society have led to their integration in the education sector.

EFAL Activities Taught Using Technology

There is a belief that when learners use technology to learn EFAL there is a different outcome in comparison to those who do not. This is because technology integration creates an environment that supports EFAL language teaching and learning by giving teachers and learners access to excellent sources of materials where teachers may use multimedia like Microsoft PowerPoint presentations and apps like YouTube to supplement their English language teaching (Mohamed, 2022). The use of Microsoft PowerPoint presentations in teaching and learning the English language is particularly fascinating since it enables the teacher to deliver lessons supported with visual aids in the form of pictures, basic animation and sound, coloured word cards and letters (Hassan, 2019; Sahadevan & Mohamad, 2020). Sahadevan and Mohamad attest that English language teachers who use PowerPoint presentations in teaching are in line with

21st-century teaching and learning practices within and beyond the teaching space, improving learners' listening, speaking, reading and writing skills.

YouTube videos can help learners improve their listening skills anytime and everywhere (Sakkir et al., 2020). Teachers in Indonesia who enhanced learners' pronunciation by using YouTube, according to Sakkir et al., motivated learners to learn English inside and outside the class. Meinawati et al. (2020) and Syafiq et al. (2021) revealed that teachers used YouTube clips during the COVID-19 pandemic to improve the spoken skills of learners, which included grammar, fluency, vocabulary, word choice, maintaining conversation and organising ideas. According to Saed et al. (2021), willingness to utilise YouTube in the EFAL classroom improves speaking abilities, reading fluency, and consistency through improving pronunciation. For instance, teachers would write and read examples of how to pronounce consonants and vowels on the board while asking learners to read and repeat them (Juma, 2021).

In Saudi Arabia, Albahlal (2019) conducted a study that identified activities on YouTube that teachers used in teaching English. The study found that teachers accepted technology and used YouTube videos that assist learners in guessing what new words mean and enhancing their ability to speak. This aided learners' learning and helped them pay attention throughout the lesson. In Bangladesh, Tahmina (2023) found that YouTube videos were used to make learning English interesting and assisted with vocabulary development. As a result, writing skills were improved among the learners. Mugo et al. (2017) found in their systematic review that mobile devices are being accepted as helpful tools for all pedagogical practices in English as an Additional Language despite attitudinal and technological challenges. Kolobe and Mihai (2021) discovered that teachers in South Africa employed Click Foundation software developed by a South African non-profit organisation that aims to improve literacy and numeracy skills among primary school children using technology to help improve reading and phonics. Through the programme, teachers taught reading skills to learners by utilising computer animations, images, melodies, and video clips to sound out words and explain their meanings. The implication is that EFAL teachers embraced the use of technology in their teaching since it was beneficial and simple to use.

Challenges of Integrating Technology in Teaching EFAL

Although there is a notable increase in technology integration in EFAL classrooms, the literature indicates that teachers often face challenges when attempting to integrate technological tools into their teaching practice. Chisango et al. (2020) mentioned that insufficient technology infrastructure in schools is a major challenge to EFAL teachers' attempts to integrate technological tools into their teaching practice. The lack of technological tools, such as computers, and poor connectivity make it difficult for teachers to prepare for their lessons and search for additional resources on the Internet (Santosa et al., 2022). This assertion suggests that the lack of adequate technological tools in schools negatively affects the integration of teachers' technology because even teachers who have the skills to integrate ICT are hindered from integrating them. Tachie (2019) posits that an inadequate supply of technological tools in South African schools is a serious challenge for teachers who have the drive and ability to integrate technologies into their teaching practice.

Furthermore, an inadequate supply of technological tools in South African rural classrooms also has implications for the teaching and learning process. Ntsala and Seabela (2023) found that EFAL teachers were concerned about integrating technological tools in overcrowded classrooms. Large class sizes and a lack of learning devices could hinder classroom engagement, and compromise learning. Hameed and Hashim (2022) corroborate this by stating that the lack of technological tools is a challenge for teachers because learners have to work in groups sharing technological tools available in their classrooms.

Another challenge that appeared to be prominent in the literature is teachers' lack of technology integration skills. Santosa et al. (2022) posited that some teachers lack ICT skills and find it difficult to integrate technology to improve their EFAL teaching. This assertion is also corroborated by the findings of several studies conducted in different parts of the world. Boonmoh et al. (2021) conducted a study in Thailand that revealed that 58% of English teachers lack basic ICT skills to operate applications such as Microsoft Word, PowerPoint, and Excel. Taghizadeh and Yourdshahi's (2020) study in Iran reported that most language teachers lack pedagogical and technological skills to integrate technological tools in their English classrooms. Studies of a similar nature were also conducted in South Africa and revealed that most teachers still lack technology integration skills (Dube, 2020; Venketsamy & Hu, 2022). The foregoing discussion shows that EFAL teachers' lack of ICT integration skills remains a challenge in different countries, including South Africa. Santosa et al. (2022) posit that teachers' lack of ICT integration skills negatively affects their self-confidence when integrating technology into their practice. This view suggests that teachers' lack of ICT integration skills affects their technology self-efficacy, which is also crucial for ICT integration in teaching and learning.

Furthermore, integrating ICTs in teaching and learning can be time consuming for many teachers (Chisango et al., 2020). Chisango et al. assert that teachers need sufficient time to identify and select suitable hardware and software to integrate into their classrooms. This view suggests that teachers experience time constraints when preparing to integrate ICTs. This might be due to the teaching load. Tondeur et al. (2017) acknowledge that overloaded curricula and standardised examinations demand much time for teachers, and some teachers end up seeing technology integration as

an additional load to their demanding workload. For technology integration to be successful, teachers need adequate time to test the technological tools before actual integration in the classroom (Francom, 2020). In short, some EFAL teachers may experience time constraints in technology integration due to the time required to prepare for the technology-enhanced lesson.

The usage of digital platforms such as Amazon, Facebook, Google, Zoom, Microsoft, Teams Zoom, Class Dojo, WhatsApp, and YouTube and devices such as laptops, tablets, and smartphones vary with contextual factors of the schools. These tools have facilitated access to educational content during the COVID-19 pandemic. The tools supported teachers in improving learners' listening, speaking, reading, and writing skills, which included grammar, fluency, vocabulary, word choice, maintaining conversation, and organising ideas. However, in rural areas, EFAL teachers faced challenges such as insufficient infrastructure, lack of resources, and inadequate training. This study extends the existing research on how rural EFAL teachers navigate the use of technology, offering insights into how language teaching benefits from technology. This lens allows a deeper understanding of the context-specific challenges and solutions in underprivileged areas.

Methodology

Research Design

This study assumed an interpretivist qualitative approach to investigate how rural intermediate-phase teachers use technology to teach EFAL. Mulisa (2022) posits that the interpretivist qualitative approach is flexible and interpretive, allowing researchers to understand why and how people behave and act in certain ways. Furthermore, it permits gathering information from participants' natural settings, enabling the researcher to precisely characterise and detail participants' day-to-day activities and their relevance. Additionally, an intrinsic case study design was followed. According to Tight (2017), an intrinsic case study should be used when the researcher wants to obtain a comprehensive grasp of a case, and this study aimed to learn more about how teachers in Limpopo rural communities use technology in their classrooms.

Sample and Data Collection

Following the qualitative approach, ten Intermediate Phase EFAL teachers were selected using purposive sampling from six primary schools in a rural circuit of Limpopo. The Intermediate Phase (Grades 4, 5, and 6) is the second phase of the South African education system after the Foundation Phase. Most learners in this phase are between 10 and 12 years old. Cohen et al. (2017) suggest that purposive sampling enables researchers to choose participants who have a rich knowledge of the phenomenon under investigation. These primary schools were a part of the engaged scholarship project which commenced in 2018, known as Classroom Interaction Pedagogy in teaching EFAL in the Intermediate Phase. The project aimed to assist teachers in integrating technology into their lessons. It is important to note that the researchers already had access to the circuit; therefore, purposive sampling was deemed suitable.

Data collection for this study involved engaging participants in face-to-face semi-structured interviews. Face-to-face interviews allowed researchers to ask in-depth questions, gaining valuable insights and a deeper understanding of the topic (Yates, 2020). Through these interviews, participants had the opportunity to articulate their viewpoints, emotions and notions regarding incorporating technology in the teaching of EFAL within their classrooms. The researchers met to review the responses of the participants to ensure a shared understanding of the data. This peer debriefing session was undertaken to mitigate potential individual biases and validate the reliability of the gathered information. The interpreted data was shared with the participants to confirm that it had been accurately understood. A journal was maintained to document the entire process throughout the study. All the audio-recorded interviews were gathered and forwarded to a skilled transcriptionist for the conversion into written text.

Analysing of Data

For this study, the most appropriate approach to data analysis was thematic data analysis, guided by the six-step framework proposed by Braun and Clarke (2014). This systematic process involved initially familiarising oneself with the data, generating preliminary codes, identifying relevant themes, reviewing and refining these themes, and ultimately assigning meaningful names and definitions to them in the research report. Upon receiving the verbatim transcripts from the transcriptionist, we engaged in multiple readings to gain familiarity with the data. The participants' statements were categorised into common phrases. We assigned each sentence a code. Highlighters were used to identify similar or related ideas. These allowed us to identify and group relevant codes to form initial themes. These themes were then critically reviewed, refined, and combined where there was overlap, ensuring alignment with the original data. The core of each theme was identified and labeled using the participants' direct quotes that addressed the research question. Finally, a narrative report was written, summarising the findings from the analysed interviews.

Findings

This study investigated how technology resources affect the teaching practices of English First Additional Language teachers in the rural Intermediate Phase of Limpopo and proposed recommendations for improvement. The participants' biographical details are presented in Table 1.

Table 1. Biographical information of the participants

School	Participant	Gender	Age range	Years of experience
A	1	Female	39	17
B	2	Female	49	21
B	3	Female	30	6
C	4	Male	49	22
C	5	Female	42	17
D	6	Male	51	19
D	7	Male	55	25
E	8	Female	37	11
F	9	Male	37	10
F	10	Female	59	30

The raw data revealed four themes: digital devices used for teaching EFAL, digital platforms used for teaching EFAL, using technology to teach EFAL components, and challenges of integrating technology in teaching EFAL. Below is a brief data presentation of each theme.

Theme 1: Digital Devices Used for Teaching EFAL

Digital devices such as laptops with data projectors, whiteboards, and smartphones were the most prominent tools, as indicated by P1, P2, and P7. One of the participants who integrated technology in teaching EFAL showed that: "*The digital devices that we have been using in our school are projectors, whiteboards, laptops, and smartphones*" (P1). Based on the latter, it can be argued that participating teachers used some digital tools, such as projectors, whiteboards, laptops, and smartphones, that were readily available to them when teaching EFAL. Moreover, these digital devices were useful in their daily teaching and easier to integrate as they were more familiar with their use.

Theme 2: Digital Platforms to Teach EFAL

When asked specifically about digital platforms, two platforms that teachers use to teach EFAL emerged from the data. WhatsApp was the most prominent digital teaching platform for participants. Two participants expressed similar views, and one indicated that: *"I use the WhatsApp group when learners are at home and send them extra EFAL work that I could not cover during the lesson, and that encouraged parents to help learners with homework*" (P7). In addition to WhatsApp, YouTube emerged from the data. Participants indicated that YouTube was a platform they found useful to teach EFAL, as one participant indicated when asked about digital teaching platforms and said: "*It was easier because I connected and used YouTube and chose certain aspects of the EFAL lessons to teach"* (P2). WhatsApp and YouTube emerged as platforms to support the pedagogical practices of the three participants. However, in some of the classrooms, digital practices were not implemented. The researchers concluded that the three participants had a sense of improvisation amid resource limitations.

Theme 3: Using Technology to Teach EFAL Components

The data revealed that some teachers used technology to teach certain EFAL components. The participants indicated four language components of EFAL, including listening, speaking, reading, and writing. Three of the participants indicated their willingness to use technology in their lessons. For example, this participant focused on listening and speaking: *"I was doing listening and speaking comprehension tests. I recorded myself telling a story for the learners to listen and then they discussed what they heard"* (P1). Another participant used technology to teach the language structures and conventions component: *"I taught some verbs and nouns from the text using Microsoft PowerPoint presentations. These are some of the lessons I could teach in class using technology*" (P2). Similarly, another participant used technology to teach reading comprehension: "*I started teaching reading comprehension using technology. I asked the learners to read and respond to the questions that appeared on the whiteboard through the data projector. I wanted them to identify the verbs and capital letters. For example, identify capital letters and small letters"* (P7). One participant used technology for a different purpose: *"I advise learners to use YouTube videos downloaded in the classroom and sent via WhatsApp to research the projects as a group or independently. For example, if they are supposed to learn about a certain genre, such as drama or a short story. I explain and show them pictures or comics and sounds and let them write paragraphs using the past, present, and future tenses*." (P1).

Although there was limited access to technology resources and connectivity in the rural context in the study, the three teachers regarded technology integration when teaching EFAL lessons as useful. P2 perceived Microsoft PowerPoint software as easy to use when teaching some language aspects. Technology was used to reinforce lessons involving language structures such as verbs, nouns, letters of the alphabet, capital letters, and tenses. Integrating technology in their lesson, participants were able to teach the EFAL curriculum's four components: Listening and Speaking, Reading and Viewing, Writing and Presenting, Language Structures and Conventions. The implication is that the three teachers implemented digital practices to some extent in their lessons.

Theme 4: Challenges to Technology Integration

This theme reports on the challenges that were encountered by EFAL teachers when integrating technology into their teaching practice. From the main theme, two sub-themes emerged: lack of technological resources and poor connectivity.

Sub-theme 1: Lack of Technological Resources

The analysis of the interviews revealed that Intermediate Phase EFAL teachers in schools located in rural area face several challenges in integrating technology in their classrooms. Of the ten teachers, only three participants integrated technology in their lessons. The participant reported: *"We encounter many challenges such as lack of Internet access, smartphones for other learners and insufficient projectors. Our school has only one projector, so it becomes difficult because I am not the only EFAL teacher, so it is not easy for us to use one projector simultaneously. When it comes to smartphones, not all learners have access to smartphones and data bundles. So, sometimes you will find that you post an activity on WhatsApp and some learners will say they did not see the activity because they did not have access to the Internet since data bundles are expensive*" (P7).

The other six participants shared similar views: "*I am willing to use technology in my lesson; however, there are no laptops for teachers and projectors at school. I was also not trained to integrate technology using digital sources in the lessons*" (P8). The responses of the participants indicate that technological resources are limited in some schools, while other schools do not have any resources that hinder their use of technology. Due to connectivity issues and non-supply of WiFi, learners need to buy data bundles to ensure they can access the internet or platforms such as WhatsApp or YouTube; data bundles are costly. The sampled teachers were willing to use various digital devices to teach EFAL in their classrooms. However, a lack of resources and knowledge about digital tools resulted in technology not being fully integrated into the teaching and learning process.

Sub-theme 2: Poor Connectivity

Another factor that was a challenge for EFAL teachers is poor connectivity in areas where their schools are located. It emerged that EFAL teachers were willing to integrate technology into their classrooms but could not because of poor connectivity. *"When there is load shedding, the network is affected. You find that you have prepared what you want to teach with technology, but when you reach the school, there is no electricity. Gadgets cannot connect and teaching cannot continue using technology"* (P7). It can be concluded from the responses of the EFAL teachers that poor connectivity due to load shedding (Eskom is South Africa's energy supplier, uses a controlled method of distributing electricity to customers known as load-shedding) and the lack of technological infrastructure in areas where their schools are located, hinder them from integrating technology. Load-shedding was also blamed for poor connectivity because power cuts affect the network.

Discussion

This investigation explored how technology resources affect the teaching practices of intermediate-phase English First Additional Language teachers in rural areas of Limpopo. This study found that EFAL teachers in rural primary schools are willing to use technology in their EFAL classrooms. This finding contradicts the study by Chisango et al. (2020), which found that some teachers in South Africa are reluctant to integrate technology to support their teaching practice.

This study found that only three EFAL teachers used technological tools such as projectors, laptops, and smartphones to support their practice. Alivi (2022) discovered that incorporating digital tools into educational settings results in more effective engagement of learners. This integration fosters interactive discussions through visually captivating content, aids learners with varying educational requirements, offers effective identification of verbs and nouns, and teaches the use of letters of the alphabet, and capital letters. The three teachers' use of different devices and technology platforms may be related to their willingness to integrate technological tools and suggests that these EFAL teachers perceive the ease of use of (PEOU) technological tools as enhancing their pedagogical practice. This view also emerged from the analysis that one participant perceived Microsoft PowerPoint as an effective tool for nurturing learners' language skills. This finding aligns with the aspirations of TAM, which advocates that PU and PEOU influence teachers' acceptance and use of technology. The finding supporting the usefulness of Microsoft PowerPoint in strengthening learners' language skills is also corroborated by Sahadevan and Mohamad (2020), who revealed that the integration of Microsoft PowerPoint in English classrooms improves learners' language skills. Hence, showcasing visual diagrams and

video clips introduces learners to real-life language usage, enhancing language learning. Additionally, presenting images and pictures can strengthen learners' vocabulary and social aspects of the language, like digital interactions, contributing to effective communication that fits in the 4IR.

Furthermore, it transpired from the current study that teachers mainly adopted online platforms such as WhatsApp and YouTube videos to support their teaching practice. This finding is corroborated by Gcabashe and Adebola's (2023) study, which confirmed that it is easy for rural schoolteachers to integrate WhatsApp into their instructional practices. Tatlici et al. (2021) also revealed that teachers in Kenya prefer to use WhatsApp to support their pedagogical practices because these Apps are more well-known and used, and so teachers and learners are confident in using them. Again, EFAL teachers might rely on WhatsApp and YouTube videos because accessing WhatsApp is both easy and affordable for teachers and sometimes for learners. YouTube videos can be easily downloaded, saved in a technological gadget and played during the lesson without connecting to the internet. This suggests that teachers who effectively utilise scarce digital resources have the potential to foster a supportive learning environment as they recognise its perceived usefulness (PU).

Although the findings mentioned earlier seem positive, this study discovered that schools, where teachers incorporate technology to some extent into their teaching, lacked adequate technological resources. It emerged that they have to share limited technological resources with their colleagues, which makes it difficult to integrate technological tools regularly in their lessons. This finding concurs with Chisango et al.'s (2020) study, which indicates that the issue of insufficient and limited technological tools in South African rural schools remains a major challenge for teachers. Moreover, some teachers indicated that in some cases, even if they have those few technological tools to use in their classrooms, the issue of poor connectivity also poses a challenge, which is the case in this study, and, as a result, teachers cannot connect to the internet. Santosa et al. (2022) stated that challenges such as poor connectivity hinder teachers from exploring and accessing more educational resources from the Internet to enrich learners' learning experiences. The implication is that the perceived ease of use of digital practices was disturbed by the external affordance elements mentioned above.

Findings of this nature may have drawbacks for teachers' technology integration because some spend more time preparing to support their lessons with technology; however, poor connectivity disrupts their planning. However, a lack of technology resources, such as learners' smartphones and data for Internet connectivity, appeared as a barrier to successful learning, particularly independent homework and research.

Seven teachers did not integrate technology when teaching their lessons due to a lack of digital tools and knowledge. The teachers indicated a willingness to use technology in their teaching; however, limited digital tools and resources and knowledge of and skill with using ICT challenged integrating technology in EFAL classrooms. Therefore, they did not experience the PU and PEOU even though they were willing to use technology in their lessons. Munje and Jita (2020) and Molotsi et al. (2023) attest that the minimal support provided to teachers and the lack of digital tools affect the effectiveness of technology integration in the classes, resulting in depriving learners of the wide range of resources available digitally to support their learning process.

Conclusion

This research explored how technology tools and resources affect the teaching practice of Intermediate Phase English First Additional Language teachers in rural areas of Limpopo. It emerged that although EFAL teachers are willing to integrate technology into their lessons to support the teaching and learning process, they are hindered by limited resources and in addition, are challenged in integrating technology into their teaching practice. The study found that only three teachers attempted integrating different technological tools into their classrooms to develop EFAL learners' speaking, writing, listening, and reading skills. However, seven participants did not use technology, citing a lack of digital tools, resources, and knowledge as a contributing factor. The study concludes that the shortage of tools and resources contributed to the limited usage of technology by the three and no usage of the seven rural Intermediate Phase EFAL teachers.

Recommendations

Based on these findings, it is recommended that technological resources that can help EFAL teachers with digital teaching be made available to support EFAL teaching with the aim of developing learners' language skills. Furthermore, in-service training and ongoing support should be provided to EFAL teachers to use available technology resources effectively. The seven teachers should also think proactively and learn from their peers who possess technological skills and not only rely on schools and the Department of Education for development.

Limitations

The study was limited to five Intermediate Phase in a rural circuit located in Limpopo, with two participants being interviewed from each school; however, one school has only one teacher teaching EFAL in the Intermediate Phase. Therefore, the sixth school with similar characteristics was sampled to meet a sample of ten participants. This implies that the study was not representative of all rural Intermediate Phase schools in the province or the country and, as a

result, the findings cannot be generalised to all Intermediate Phase EFAL teachers. In addition, the study adopted a qualitative approach with only one data collection method – semi-interviews. This limitation limited the data that could have been obtained through methods such as observation.

Ethics Statements

We received ethical approval for the engaged scholarship project from the ethics review committee of the university (Ethical clearance number: 2017/09/13/90233522/01/MC). Additionally, the Limpopo Department of Education and Circuit Office approved the study's conduct. Before data collection, all participants and their respective primary schools signed consent forms. The study's aim and objectives were orally explained to the participants as well as stated in the consent form. Pseudonyms were given to participating schools and teachers to maintain confidentiality and protect personal information throughout the study.

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Authorship Contribution Statement

Maja: Literature review and writing, Gcabashe: Theoretical framework and findings, Nkuna: Methodology review and editing.

References

Al-Abdullatif, A. M., & Alsubaie, M. A. (2022). Using digital learning platforms for teaching Arabic literacy: A post-pandemic mobile learning scenario in Saudi Arabia. *Sustainability, 14*(19), Article 11868. https://doi.org/10.3390/su141911868

Albahlal, F. S. (2019). The impact of YouTube on improving secondary school students' speaking skills: English language teachers' perspectives. *Journal of Applied Linguistics and Language Research*, *6*(2), 1-17. https://bit.ly/3Tu258O

Alivi, J. S. (2022). *Explaining why teachers use ICT for teaching and learning: A case study of English as a foreign language teacher in a university in Indonesia*. [Doctoral dissertation, University of Warwick]. http://webcat.warwick.ac.uk/record=b3927790

Alshammary, F. M., & Alhalafawy, W. S. (2022). Sustaining enhancement of learning outcomes across digital platforms during the COVID-19 pandemic: A systematic review. *Journal of Positive School Psychology*, *6*(9), 2279-2301. https://bit.ly/3XtEV3R

Aruleba, K., & Jere, N. (2022). Exploring digital transforming challenges in rural areas of South Africa through a systematic review of empirical studies. *Scientific African*, *16*, Article e01190. https://doi.org/10.1016/j.sciaf.2022.e01190

Aruleba, K., Jere, N., & Matarirano, O. (2022). An evaluation of technology adoption during remote teaching and learning at tertiary institutions by gender. *IEEE Transactions on Computational Social Systems*, *10(*3), 1335-1346. https://doi.org/10.1109/TCSS.2022.3163912

Bećirović, S., Brdarević-Čeljo, A., & Delić, H. (2021). The use of digital technology in foreign language learning. *SN Social Sciences*, *1*, Article 246. https://doi.org/10.1007/s43545-021-00254-y

Boonmoh, A., Jumpakate, T., & Karpklon, S. (2021). Teachers' perceptions and experience in using technology for the classroom. *Computer-Assisted Language Learning Electronic Journal*, *22*(1), 1-24. https://bit.ly/3XkqJdk

Braun, V., & Clarke, V. (2014). What can "thematic analysis" offer health and wellbeing researchers? *International Journal of Qualitative Studies on Health and Well-being*, *9*(1), Article 26152. https://doi.org/10.3402/qhw.v9.26152

Chisango, G., Marongwe, N., Mtsi, N., & Matyedi, T. E. (2020). Teachers' perceptions of adopting information and communication technologies in teaching and learning at rural secondary schools in Eastern Cape, South Africa. *Africa Education Review*, *17*(2), 1-19. https://doi.org/10.1080/18146627.2018.1491317

Cohen, L., Manion, L., & Morrison, K. (2017). *Research methods in education* (8th ed.). Routledge. https://doi.org/10.4324/9781315456539

Davis, F. D. (1980). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. [Doctoral dissertation, Massachusetts Institute of Technology]. http://hdl.handle.net/1721.1/15192

Department of Education. (2004). *Draft White Paper on e-Education: Transforming learning and teaching through information and communication technologies (ICTs)*. (Notice 1869 of 2004, No. 26734). Government Gazette. https://bit.ly/4d0pkOU

Dube, B. (2020). Rural online learning in the context of COVID 19 in South Africa: Evoking an inclusive education approach. *Multidisciplinary Journal of Educational Research*, *10*(2), 135-157. https://doi.org/10.17583/remie.2020.5607

Eleyyan, S. (2021). The future of education according to the fourth industrial revolution. *Journal of Educational Technology and Online Learning*, *4*(1), 23-30. http://doi.org/10.31681/jetol.737193

Francom, G. M. (2020). Barriers to technology integration: A time-series survey study. *Journal of Research on Technology in Education*, *52*(1), 1-16. https://doi.org/10.1080/15391523.2019.1679055

Garcia, A., & Nichols, T. P. (2021). Digital platforms aren't mere tools—they're complex environments. *Phi Delta Kappan*, *102*(6), 14-19. https://doi.org/10.1177/0031721721998148

Gcabashe, N. B., & Adebola, O. O. (2023). Business studies teachers' utilization of WhatsApp for instructional purposes in selected schools in South Africa. *African Perspectives of Research in Teaching and Learning*, *7*(1), 35-49. https://bit.ly/3B12c5r

Ghavifekr, S., & Rosdy, W. A. W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, *1*(2), 175-191.

Hameed, B. S., & Hashim, H. (2022). Challenges faced by teachers in integrating 4th industrial revolution (4IR) technology in teaching English as a second language (ESL). *Creative Education*, *13*(5), 1792-1809. https://doi.org/10.4236/ce.2022.135113

Harryanto, Muchriana, M., & Ahmar, A. S. (2018). Application of TAM model to the use of information technology. *International Journal of Engineering and Technology*, *7*(2.9), 37-40. https://bit.ly/3BBanFP

Hassan, M. (2019). Application of PowerPoint presentation in English language learning and pedagogy: Its efficacies and practical implications in classroom instruction. *International Journal of English Learning and Teaching Skills*, *1*(4), 290-297. https://doi.org/10.15864/ijelts.1403

Jerry, M., & Yunus, M. M. (2021). Blended learning in rural primary ESL classroom: Do or don't. *International Journal of Learning, Teaching and Educational Research*, *20*(2), 152-173. https://doi.org/10.26803/ijlter.20.2.9

Juma, M. J. (2021). Developing English pronunciation through animation and YouTube videos. *Arab World English Journal*, *12*(4), 401-414. https://doi.org/10.24093/awej/vol12no4.26

Kolobe, L., & Mihai, M. (2021). The integration of technology in supporting progressed learners in English First Additional Language comprehension. *Perspectives in Education*, *39*(2), 303-323. https://doi.org/10.18820/2519593X/pie.v39.i2.21

Malinga, S. (2022, November 14). *Disaster in the making as South African schools remain unconnected*. Duxbury Networking. https://www.itweb.co.za/content/KjlyrvwBzBXqk6am

Maree, J. G. (2022). Managing the Covid-19 pandemic in South African Schools: Turning challenge into opportunity. *South African Journal of Psychology*, *52*(2), 249-261. https://doi.org/10.1177/00812463211058398

Meinawati, E., Harmoko, D. D., Rahmah, N. A., & Dewi, N. (2020). Increasing English speaking skills through YouTube. *Polyglot: Jurnal Ilmiah, 16*(1), 1-13. https://doi.org/10.19166/pji.v16i1.1954

Mohamed, R. H. T. (2022). The impact of using technology in teaching English]. *Journal of Educational and Psychological Sciences*, *6*(6), 177-191. https://doi.org/10.26389/AJSRP.R271118

Moldavan, A. M., Edwards-Leis, C., & Murray, J. (2022). Design and pedagogical implications of a digital learning platform to promote well-being in teacher education. *Teaching and Teacher Education*, 115, Article 103732. https://doi.org/10.1016/j.tate.2022.103732

Molotsi, A. R., Moodley, K., & van Wyk, M. (2023). Grade 9 teachers' experience of digital technologies in the classroom. *South African Computer Journal, 35*(1), 131-148. https://doi.org/10.18489/sacj.v35i1.1098

Mugo, D. G., Njagi, K., Chemwei, B., & Motanya, J. O. (2017). The technology acceptance model (TAM) and its application to the utilisation of mobile learning technologies. *British Journal of Mathematics and Computer Science*, *20*(4), 1-8. https://doi.org/10.9734/BJMCS/2017/29015

Mulisa, F. (2022). When does a researcher choose a quantitative, qualitative, or mixed research approach? *Interchange*, 53, 113-131. https://doi.org/10.1007/s10780-021-09447-z

Munje, P. N., & Jita, T. (2020). The impact of the lack of ICT resources on teaching and learning in selected South African primary schools. *International Journal of Learning, Teaching and Educational Research*, *19*(7), 263-279. https://doi.org/10.26803/ijlter.19.7.15

Nokwali, M. P., Mammen, K. J., & Maphosa, C. (2015). How is technology education implemented in South African schools? Views from technology Education learners. International *Journal of Educational Sciences*, *8*(3), 563-571. https://bit.ly/3N4P9Tq

Ntsala, S. A., & Seabela, P. M. (2023). Obstructions to the integration of ICT in English First Additional Language lessons: The case of Limpopo intermediate phase classrooms. *Perspectives in Education*, *41*(2), 233-246. https://doi.org/10.38140/pie.v41i2.6823

Pal, D., & Vanijja, V. (2020). Perceived usability evaluation of Microsoft Teams as an online learning platform during COVID-19 using system usability scale and technology acceptance model in India. *Children and Youth Services Review*, 119, Article 105535. https://doi.org/10.1016/j.childyouth.2020.105535

Parker, R., Morris, K., & Hofmeyr, J. (2020). *Education, inequality and innovation in the time of COVID-19*. JET Education Services. https://bit.ly/4gKG5AI

Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research*, *3*(1), 33-35. https://doi.org/10.21839/jaar.2018.v3iS1.165

Saed, H. A., Haider, A. S., Al-Salman, S., & Hussein, R. F. (2021). The use of YouTube in developing the speaking skills of Jordanian EFL university students. *Heliyon*, *7*(7), Article e07543. https://doi.org/10.1016/j.heliyon.2021.e07543

Sahadevan, S. R., & Mohamad, M. (2020). The use of PowerPoint (PPT) PiWoCa technique in the form of bubble map in helping year 2 ESL pupils' simple sentence construction: A literature review. *Creative Education*, *11*(9), 1602-1616. https://doi.org/10.4236/ce.2020.119117

Sakkir, G., Dollah, S., & Ahmad, J. (2020). Students' perceptions toward using YouTube in EFL classrooms. *Journal of Applied Science, Engineering, Technology, and Education*, *2*(1), 1-10. https://doi.org/10.35877/454RI.asci2125

Santosa, M. H., Senawati, J., & Dang, T. T. (2022). ICT integration in English foreign language class: Teacher's voice in perceptions and barriers. *Pedagogy: Journal of English Language Teaching*, *10*(2), 183-202. https://doi.org/10.32332/joelt.v10i2.5168

Syafiq, A. N., Rahmawati, A., Anwari, A., & Oktaviana, T. (2021). Increasing speaking skill through YouTube video as English learning material during online learning in pandemic COVID-19. *Journal of English Language Studies*, *3*(1), 50-55. https://doi.org/10.31849/ELSYA.V3I1.6206

Tachie, S. A. (2019). Challenges and opportunities regarding usage of computers in the teaching and learning of mathematics. *South African Journal of Education*, *39*, Article 1690. https://doi.org/10.15700/saje.v39ns2a1690

Taghizadeh, M., & Yourdshahi, Z. H. (2020). Integrating technology into young learners' classes: Language teachers' perceptions. *Computer Assisted Language Learning*, *33*(8), 982-1006. https://doi.org/10.1080/09588221.2019.1618876

Tahmina, T. (2023). Students' perception of the use of Youtube in English language learning. *Journal of Languages and Language Teaching*, *11*(1), 151-159. https://doi.org/10.33394/jollt.v11i1.6883

Tatlici, L., Akgüney, M., Bayram, A., Tuğbay, O., & Kamişli, H. (2021). The online and distance learning process of the schools in Turkish Republic of Northern Cyprus and identification of the training needs of the school managers in these schools. *Journal of Advanced Education Studies*, *3*(2), 124-143. https://doi.org/10.48166/ejaes.942185

Teo, T., & Jarupunphol, P. (2015). Dhammic Technology Acceptance Model (DTAM): Extending the TAM using a condition of attachment in Buddhism. *Journal of Educational Computing Research*, *52*(1), 136-151. https://doi.org/10.1177/0735633114568859

Tight, M. (2017). *Understanding case study research: Small-scale research with meaning*. SAGE. https://doi.org/10.4135/9781473920118

Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development*, *65*, 555-575. https://doi.org/10.1007/s11423-016-9481-2

Tsai, Y. R. (2015). Applying the Technology Acceptance Model (TAM) to explore the effects of a course management system (CMS)-assisted EFL writing instruction. *Calico Journal*, *32*(1), 153-171. https://doi.org/10.1558/calico.v32i1.25961

van Greunen, D., Kativu, K., Veldsman, A., & Botha, J. (2021). *Enhancing ICT readiness of schools in South Africa*. Department of Science and Innovation Republic of South Africa. https://bit.ly/47P6eKt

Venketsamy, R., & Hu, Z. (2022). Exploring challenges experienced by foundation phase teachers in using technology for teaching and learning: A South African case study. *Journal for the Education of Gifted Young Scientists*, *10*(2), 221-237. https://doi.org/10.17478/jegys.1085660

Vonog, V. V., Batunova, I. V., & Kolga, V. V. (2021). Digital platforms and tools used in the system of teaching English. *SHS Web of Conferences*, *113*, Article 00019. https://doi.org/10.1051/shsconf/202111300019

Yates, K. R. (2020). *Using qualitative interview methods to understand health service provision for people who inject drugs.* SAGE Publications Ltd. https://doi.org/10.4135/9781529712964

Appendix

Interview Guide

1. What digital platforms do you regularly use in your English First Additional Language (EFAL) classroom, and how do you incorporate them into your lessons?
2. Which technology devices (e.g. laptops, tablets, smartphones) are most effective in your EFAL classroom?
3. How often and in what ways do you integrate technology into your teaching practices?
4. What benefits have you observed in using technology to teach EFAL in your class?
5. What kind of training or support have you received in using technology for teaching?

What challenges do you face when implementing technology in your classroom?