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Voices Beyond Text: Unravelling Perceptions and Experiences of Thai Students with Visual Impairment using Microsoft's Reading Progress - A Narrative Inquiry Approach

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ABSTRACT

Students with disabilities have been facing issues in English proficiency improvement and limitations in material accessibility. This, too, happens to Students with Visual Impairment (SVIs). However, as announced in the United Nations' commitment to create equity in inclusive education, particularly in SDG Goal 4, it is vital for educators to draw attention to this issue. This qualitative study explores the perceptions and experiences of SVIs using Microsoft's Reading Progress program to develop English reading skills, particularly fluency and pronunciation, at a university in Thailand. Through a narrative inquiry approach, six Thai undergraduate students with visual impairments (SVIs) were purposively selected to narrate their perceptions and experiences through semi-structured interviews on the program assisting SVIs with English reading skill improvement. The collected data were analyzed and categorized into six themes regarding Pronunciation Improvement, bridging the Gap between Silent Reading and Pronunciation, Enhancing other English skills, and The Role of Microsoft's Reading Progress Program in

Enhancing Confidence in English Reading. However, challenges were revealed in the areas of accessibility facilitating SVIs users. Lastly, additional experiences also emerged under the themes of Balance Between Pronunciation and Comprehension. The study's implications are beneficial for educational institutions and policymakers to take accessible learning solutions into account under the unique needs of students with visual impairment and, importantly, to enhance equity in inclusive education.

Keywords: Students with Visual Impairment (SVIs), English reading skills development, inclusive education, Microsoft Reading Progress, accessibility in education

Introduction

Ensuring equity in education for all individuals, particularly students with disabilities, is a fundamental aspect of promoting an inclusive society in the recent diverse educational landscape. Among the group of disabilities, students with visual impairment (SVIs) stand out as one of the major populations in the community that also requires particular attention. As a member state of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), Thailand ratified the regulations of the Convention in 2010 (United Nations, 2006) and reflected the commitment to inclusivity in education through the Sustainable Development Goals (SDGs), specifically Goal 4, which aims to ensure inclusive and equitable quality education for all, including persons with disabilities (United Nation, 2015 & United Nation, 2017).

Despite these global commitments and efforts, SVIs encounter significant challenges in their English language learning (ELL) journey as English is one of the compulsory modules for higher-level curriculums. Among English skills, reading skill is a keystone to allow all EFL learners to reach the expected level of language proficiency. Achieving reading proficiency involves a complex interplay of skills such as phonics, phonemic awareness, vocabulary, reading comprehension, and fluency. Among these skills, fluency serves as a vital aspect of the bridge between word recognition and understanding (Kim, 2020; Kuhn et al., 2010). For the SVIs, the limitations hindering them from reaching their goal in ELL and reading proficiency are learning materials, and information accessibility, especially concerning different types of media and illustrations (Belova, 2017). Hence, it is significant to promote tailored methods and tools to support their learning process effectively.

Regarding the concept of inclusive education in Thailand and integrating technology into the ELL of students with disabilities, several leading universities, such as Thammasat University, declare their readiness in both aspects. To promote equity in education, the university provides the Disabled Students Services Center or DSS. In terms of using technology for educational support, many of these universities employ Microsoft Teams or MS Teams as the main platform for teaching and learning both onsite and online (Thongnab, 2020). In light of the adoption of MS Teams, the Reading Progress program was developed to assess learners' reading abilities and provide feedback to help skill development. However, to ensure the concreteness of the program in educational support, this research aims to examine the experiences and perceptions revealed by the SVIs in the realm of reading proficiency development with the utilization of innovative solutions such as the Reading Progress program in MS Teams. By employing the narrative inquiries approach, one of the qualitative methodologies, valuable insights to the broader discourse on inclusive education will be contributed to pave the way for improving learning experiences and opportunities for SVIs in Thailand and beyond.

This study aims to address the following question:

1. What are the SVIs' perceptions of Microsoft's Reading Progress Program towards their English reading skills?

    1.1 What are the positive aspects of using Microsoft's Reading Progress Program?

    1.2 What are the challenges in using Microsoft's Reading Progress Program?

2. What are the experiences of the SVIs in using Microsoft's Reading Progress Program?

Literature Review

Education of Students with Visual Impairment in Thailand

Visual impairment is sometimes generalized as being blind; however, the blind condition can be divided into categories ranging from legally blind to partially blind to totally blind, which is a person with no vision function. It primarily relies on tactile, auditory skills, or other senses (Gargiulo, 2012). Admittedly, obstacles for the disabled numerously contribute to negative effects on the lives of people with disabilities, such as living with poorer health conditions and higher rates of poverty. These difficulties also mean being excluded from social interaction, inadequate funding, and lack of accessibility to education. Such barriers have impeded the living quality of not

just people with disabilities in general but also the blind and visually impaired population for decades (TAB, 2016).

Fortunately, the government of Thailand enacted the Education Provision for Persons with Disabilities Act, B.E. 2551 (2008), to promote the educational standard for related stakeholders to drive the inclusive environment, such as outlined in Section 5.

> A person with disability shall have the following educational rights: … (3) to receive up-to-standard and quality-assured education, including educational courses, educational examination which are appropriate and harmonious with special requirements of each individual person with each type of disability
>
> (Education Provision for Persons with Disabilities Act, B.E. 2551, 2008, Section 5).

This results in the support offered by the leading universities to establish the Disabled Students Services Center (DSS). The DSS centers are also located in many universities throughout Thailand. The DSS functions as a provider of both academic and non-academic services such as admission applications, individual planning, accommodations, accessible classrooms and libraries, and scholarships to facilitate students with disabilities, including the SVIs. However, although the need for pedagogical and learning materials modification is apparent for the educational services for the SVIs (Lintangsari & Emaliana, 2020), several studies concerning wide-ranging challenges of accessibility to educational resources appear. Therefore, specialized instruction and accommodation to match the SVIs' appropriate learning styles are required to fulfill their specific needs in inclusive classrooms (Sapp & Hatlen, 2010).

Reading Skills of the SVI

As every Thai student is required to study English, it is also unavoidable for the SVIs to face this English Language Learning (ELL) journey. Along the ELL journey, learners are expected to develop English skills to achieve their English proficiency at a certain level. To achieve good reading proficiency, the collaboration of five pillars: phonics, phonemic awareness, vocabulary, reading comprehension, and fluency is required. Among these five aspects, fluency is important due to its roleplayed as a bridge between word recognition and comprehension. Additionally, reading fluency is regarded as one of the necessary skills for reading comprehension (Kim, 2020; Kuhn et al., 2010). Reading fluency is also the ability to read a text aloud with natural speed (DiSalle & Rasinski, 2017), consisting of three

main elements: accuracy, automaticity, and prosody (Salarvand et al., 2022). To develop each aspect of reading components, response, and feedback are requisite for reading activities. In other words, after the learners pronounce a word, their teacher should deliver feedback (Tracey & Morrow, 2012). Particularly, when the pronunciation is incorrect, it is vital to correct the learner until the learner has mastered the word by several mechanisms. One of the correction procedures is to ask the learners to pronounce the word repeatedly, which is directly related to oral reading fluency (Tracey & Morrow, 2012), and eventually shapes students' reading skills to enhance their reading proficiency (Al-Kharusi, 2014). Therefore, to improve reading proficiencies, EFL learners should enhance their reading skills in both reading comprehension and fluency.

For SVIs, their physical challenges impact many aspects of ELL, for example, limitation in information accessibility when the learning process contains different forms of media and illustrations and the shortage of utilizing English language learning strategies (Jannok & Suppasetseree, 2020). For the SVIs, it could be difficult to complete some reading comprehension activities such as skimming and scanning (Belova, 2017). It has been challenging for SVIs to read text in the same structural way as their sighted peers do. Generally, when blind students read their text, they perceive information through braille texts in a sequential linear direction by using their fingers. Particularly when they need to find information that might be located differently in the same passage, these difficulties happen in either braille or digital reading texts. As a result, after reading the text, most SVIs try to memorize the needed information to answer the comprehension questions after the passage, leading to tiredness and loss of concentration while completing their reading task. With the help of modern technologies, the gap between the SVIs and the sighted students has been narrowed down. Many programs were developed to support the SVIs in accomplishing reading tasks, such as screen reading programs and speech synthesizers. These programs assist the SVIs not only in reading the text by listening sequentially but also in returning to the spot for the needed information, including spelling check (Belova, 2017). In other words, the way of reading through the listening of the SVIs enhances their auditory learning style and optimizes their sense of hearing to process their input (Marpaung et al., 2022).

Utilizing Technology in Reading Skills Development: Microsoft's Reading Progress Program

To complete reading tasks, the SVIs utilize reading strategies involving different types of media depending on whether they are reading printed or electronic texts (or 'e-text'). (Setiawan et al., 2020). As a result, their

reading strategies can be divided into reading paper, reading e-text strategies through digital format by electronic devices, and auditory strategies, which refers to reading through the recordings, which can be either recordings of human or computer voices. Therefore, if the SVIs are facilitated with appropriate methods and tools to support their learning process, it is likely that they can also apply in the English reading process (Marpaung et al., 2022).

In this study, Microsoft Teams (MS Teams) was selected as many educational institutes and universities used it as their main digital learning platform (Thongnab, 2020). MS Teams provides online learning and various learning tools and applications to support onsite learning. Regarding inclusive education, MS Teams also developed a software program called Immersive Reading, which comes with features such as text-to-speech, Parts of Speech, and Picture Dictionary. Although these features in MS Teams are quite accessible to blind and visually impaired students, issues regarding the setup process and findability challenges appear (Jesso, 2020). In addition to inclusive software, one of the tools in Microsoft Teams that supports educators and directly relates to ELL development is Reading Progress. Although the Reading Progress program incorporates both oral reading practice and reading comprehension activities, the focus of this study was specifically on oral reading practice, as fluency is fundamental to developing comprehension skills. (Microsoft Support, n.d.). The Reading Progress provides oral reading practice with error analysis tools to provide feedback on the reader's fluency. To help educators improve reading fluency, the program tracks all three components of reading fluency: speed, accuracy, and prosody. To increase learner autonomy, it extends opportunities to build scaffolds for each learner through Reading Progress assignment as an independent practice. Reading Coach builds on Reading Progress by identifying five words that individual learners pronounce incorrectly or read while struggling. With the feedback on reading skills, Reading Progress and Reading Coach allow learners to work independently in their environment (V-amotoyama, n.d.). Steps in how to use Reading Progress program are explained in appendix A.

Regarding accessibility, the term 'Accessibility' refers to the capability of delivering an experience accessible to people with various abilities, including those who are disabled and have different conditions. This facet plays the most relevant role in this research, ensuring that the SVIs can access their learning materials in various formats (such as audio or screen readers). Reading Progress is free and built-in to Microsoft Teams Assignments and can be applied to various platforms, including Desktop, Mac, web, iOS, and Android. Students can read the uploaded passage out loud, and a recording will be created when they finish reading. Teachers can access and review the feedback at their convenience. These processes can reduce time

consumption compared to traditional tracking of students' fluency (Tholfsen, 2021).

Methodology

Research Design

Among various types of qualitative research methods, the narrative inquiry is selected as the research approach in this study. Generally, humans, including teachers and learners, can be storytellers who produce data in narrative form and reveal themselves in their stories (Clandinin & Connelly, 1994). The storytelling of individual experiences allows the researcher to expose the identities of that individual. It fosters insightful information formed under contextual unstructured stories, leading to powerful structures to explore how learners develop their stories through their personal narratives (Creswell & Poth, 2018). As a result of this, the narrative inquiry method offers a deeper comprehension of a specific group of participants, such as students with visual impairment. The expected data shows the experiences in both the use and perceptions of the SVIs utilizing the Reading Progress and developing their reading skills in English. Data in the narrative inquiry was collected through in-depth interviews. Based on the research purpose and research questions, this study's content derived from data collection primarily focuses on the transcribed stories from participants; hence, the narrative thematic analysis was mainly used to analyze the data (Butina, 2015).

Research Context and Participants

Data collection involved purposive sampling of six students with visual impairment (SVIs) in a Thai university, adhering to specific criteria. Participants were selected based on criteria requiring them to be EFL undergraduate students who are totally blind and attended English foundation courses and/or English for Specific Purposes (ESP) courses at the university, which include reading skill aligned with the university's curriculum. This criterion was crucial to the study because Participants' engaging in either English or ESP courses demonstrated their experience in learning English. Therefore, they could understand their weak and strong points in English and how to improve their specific English skills when encountering assistive technology for English development. All participants were enrolled at the undergraduate level under various programs, including Political Science and Social Work. Their age ranged from 21 to 25. Each participant had vision loss with varying causes. Both S1, S2, and S4 were not born blind. They lost their vision during their childhood, while S3 was born

with partial vision and S5 was born with complete blindness. Finally, S6 lost his sight at the age of 18 due to a tumor pressing his optic nerve. Obviously, participants' visual condition had a significant impact on their everyday lives and educational experiences. The demographic of participants can be found in Table 1.

Table 1.

Participants' Demographic Background

Pseudo nyms	Age (years)	Faculty	Year of study	Vision Loss Onset
S1	23	Political Science	3rd year	Age 7
S2	24	Political Science	4th year	Age 8
S3	25	Social Administration	4th year	Born with partial vision and worsen over time.
S4	21	Social Administration	4th year	Age 10
S5	23	Political Science	4th year	Born blind due to premature birth
S6	22	Social Administration	3rd year	Age 18 (due to tumor pressing on optic nerve)

Data Collection and Analysis

To begin the data collection process, ethical approval for the research was obtained from the Institutional Review Board (IRB) at the authors' university. Upon receiving approval, the researcher contacted the purposely selected participants and requested information about their visual impairment conditions. Before all participants signed consent forms, the author ensured that they acknowledged the research process and information. The author also explained that to implement the Reading Progress program, participants were appointed individually, and asked to bring their own electronic devices. S1 and S6 used mobile phones and S2, S3, S4, and S5 preferred using their notebooks. The data collection occurred in the room arranged by DSS and took approximately 40 – 60 minutes for each appointment. Each participant was added to the MS Teams room to complete the assigned task once a week

until they were familiar with the program. On the data collection date, the details and instructions of how to use the program were explained clearly before each participant started using it.

In this research, the data were sufficient by the second time of task completion and practice. After completing the reading progress assignment, interviews in Thai were conducted to obtain in-depth information (Clandinin & Connelly, 1994; Creswell, 2009; Fraenkel et al, 2014). Following procedures, pseudonyms were used to protect participants' identities and ensure that none of the data collected would be harmful. Before data collection, the interview questions were reviewed by the experts and were refined based on the feedback. Questions for the interview were guided under the relevant areas involving (1) the background of participants, focusing on their visual impairment and how their visual limitation impacts their English reading skills; (2) the participants' experiences, including perceptions regarding the use of assistive technology in their English reading skill development; (3) how their experiences evolve during the use of the program; and (4) reflections and expectations regarding the use of the program to improve their reading skills. For questions under areas (1) and (2), the collected data were concentrated on recalling the retrospective narratives provided by the participants to elicit an initial comprehension of their experiences. The core findings of this study were primarily derived from questions in area (3) and (4).

Data from interviews was analyzed by using the narrative thematic analysis process. The process consists of four stages, which are (1) the organization and preparation of the data; (2) obtaining a general sense of the information; (3) the process of coding and structuring from categories to themes; (4) the final stage of data interpretation (Butina, 2015). The coding process was conducted during the interpretation process by defining and redefining the recurring keywords, messages, and patterns that will apply to the research objectives (Glesne, 2006). To ensure the reliability and credibility of the qualitative data analysis, member-checking was employed in this research (Creswell, 2013). The author shared with and consulted participants during the analysis, aligning with the intra-coding principles (Saldaña, 2016).

Findings

In this section, qualitative data from six participants as students with visual impairment (SVIs) revealed six emerging themes that propose insight information regarding their perceptions and experiences using Microsoft's Reading Progress Program for the development of English reading skills. Narrative Inquiry approach was utilized to offer participants' stories focusing on their personal journeys and the impact of the program on their reading

skills. Regarding participants' perceptions, positive themes were highlighted through the aspects including Pronunciation Improvement and Helping with Unknown Vocabulary; Bridging the Gap Between Silent Reading and Pronunciation for Better Communication; Enhancing Pronunciation and Listening Skills; and The Role of Microsoft's Reading Progress Program in Enhancing Confidence and Accuracy in English Reading. On the other hand, challenges were revealed under the theme Challenges in Accessibility and System Functionality for Visually Impaired Users. Finally, reflections regarding experiences emerged under the themes of Balance Between Pronunciation and Comprehension. Findings are presented according to the emerged themes as follows:

Positive Aspects of Using Microsoft's Reading Progress Program

Theme 1: Pronunciation Improvement and Helping with Unknown Vocabulary

This theme reflects participants' elaboration on how their pronunciation issues were identified. Not only did the SVIs identify pronunciation issues, but both S2 and S3 also mentioned in Extract 1 that the program could help them even better than their reading practice by using traditional tools such as braille. This is because reading through the program involves listening to the words, and when they encounter an unknown word, they can listen to the pronunciation in advance, particularly for difficult words with unfamiliar endings.

Extract 1

> What's different for me is that I think it can detect which words I often mispronounce or which words aren't pronounced clearly. It shows the top five words I frequently mispronounce….At first, I disagreed with this point, but when I listened, I realized I wasn't pronouncing some words correctly. For example, the word 'stage.' It took me a while to practice and get it right because you must pronounce the ending slightly more clearly. … Nowadays, we just understand, but when it comes to pronunciation, not everyone pronounces the same words, even though they're reading the same text. It's because we didn't practice pronunciation from the start. (S2)

> It's really useful. Whether I read using a screen reader or braille, I get to practice pronunciation and encounter new words, some of which I hadn't seen before. It helps me figure out which words I'm mispronouncing. I think it's beneficial. … When using this program, I hope it will help teach me how to pronounce difficult words correctly. I hope it can help me improve my pronunciation of challenging words. (S3)

> I feel like every time I read, I get excited, wondering what my performance will be like this time—what level my reading will reach and what I need to improve. It feels like a challenge for me as well. (S5)

In other words, utilizing the program could help smooth the SVIs' English reading skill improvement by identifying pronunciation challenges, facilitating correcting mispronouncing words, and allowing them to create fluency in reading.

Theme 2: Bridging the Gap Between Silent Reading and Pronunciation for Better Communication

Another emerging positive theme was the contribution regarding closing the gap between silent reading and reading aloud, improving verbal communication. In this theme, Extract 2, the participants narrated their background in reading practice, which might not be emphasized in pronunciation. Regarding the key objective of the program, S2 and S3 mentioned that it fosters them to move their focus from reading comprehension to pronunciation practice. They addressed that despite the importance of reading comprehension, S4 highlighted that it is vital to improve the ability to communicate clearly with others in the real world.

Extract 2

> Umm.. It's different from high school, where when we read, they let us read silently and then answer questions. It wasn't this kind of reading practice. If it can be adapted, I think it could be beneficial. (S2)

> I think if it's reading focused on pronunciation, it's quite useful. It doesn't matter if we don't read exactly according to the content or pause differently. It still works because when it comes up, it lets us read word by word. For example, swiping through reads one word at a time. (S3)

> Is it important? I think it is, but maybe not in terms of comprehension. We can understand, but if we mispronounce,

> we still understand it ourselves. But if we can pronounce correctly and read fluently, it helps us communicate with others better. (S4)

Thus, S2, S3, and S4 articulated that using technology with accessible auditory strategies could possibly also help directly improve reading proficiency and indirectly develop their speaking proficiency at the same time.

Theme 3: Enhancing Speaking and Listening Skills

Interestingly, the participants revealed through narrating their positive aspects regarding the dual benefits of the program enhancing both their speaking and listening skills in Extract 3. Many participants mentioned the involvement of employing their auditory strategies in practice reading tasks through this program. For S1, it is obvious that by having the opportunity to select different accents to listen to before conducting the reading task, he could learn how to differentiate different accents, which could help his speaking skills. As elaborated by S6, it is vital for the SVIs to rely on listening while reading; consequently, before entering the actual step of reading activity, he decided to listen to the pronunciation with a particular accent until he ensured that he could read the provided passage more confidently.

Extract 3

> It helps us practice our accent and our skills. By practicing reading and pronouncing words correctly, it's not just about pronunciation; it's also about speaking. I feel like it helps with speaking practice, too. (S1)

> The benefit is mainly in listening. For blind people, listening is the primary sense we rely on. It depends on the person and which accent they listen to, like American English. Personally, I feel more familiar with the American accent. The first time I tried reading while listening, I was confused because I couldn't understand. But when I switched to another accent, it felt different. It depends on whether you want to develop other accents or not. Wherever you are, if you practice, it will help. (S6)

This showed that the reading process of the SVIs directly relates to their listening skills and indirectly promotes their speaking skill.

Theme 4: The Role of Microsoft's Reading Progress Program in Enhancing Confidence and Accuracy in English Reading

The answers from narrative inquiry revealed in Extract 4 that the program also provides positive impacts on participants' confidence in reading English more accurately. Generally, when a learner mispronounces a word, it causes reluctance when communicating in English. However, the immediate feedback provided by the program after completing the reading task allows participants to be aware of the incorrect pronunciation. Despite the feedback showing their mispronunciation, participants turn the errors into benefits by using this as a factor to increase their confidence. As stated by S1, S2, and S3, they all were willing to correct their mistakes and use the opportunity to prevent future mispronunciation.

Extract 4

> When I read something wrong, I think, 'Oh, is this wrong?' I don't lose confidence. I just feel like, 'Okay, now I know, and I can read it correctly next time. (S1)
>
> It makes me more confident when communicating orally because my pronunciation improves. I can read aloud and know how to read the word correctly. (S2)
>
> It helps me learn more about how to read it correctly. It doesn't reduce my confidence; it helps me feel more confident reading the words correctly like this. (S3)

Hence, this theme underscores the advantages of constructive feedback in ensuring the SVIs' reading accuracy and increasing their confidence.

Challenges in Using Microsoft's Reading Progress Program

Theme 5: Challenges in Accessibility and System Functionality for Students with Visual Impairment

Although participants overwhelmingly narrated positive aspects, they pointed out issues regarding accessibility and technical difficulty in this Extract 5. The challenges they encountered while using the program tended to hinder their overall experience. The program's feature aims to allow the student to read the passage while the program records the student reading aloud. However, this was not always convenient for the SVIs, leading to the use of braille for three of the participants. S1 described that he decided to use

braille instead of reading on the screen for more convenience. While some participants struggle reading on the screen, S3 was facing difficulty in fixing the microphone as he was not sure if the program could detect his pronunciation clearly.

Extract 5

> The screen shows a check control to prevent us from reading, which I think the goal is to have us read along. But since I'm blind, I might not read from the screen. Instead, I choose to use braille externally when using the computer. It might take a minute or two to navigate to the end button of the recording, which is a bit difficult. (S1)

> There's an issue where I have to keep turning the microphone on and off. We must constantly allow access, even though we already gave permission from the start. It feels like the program keeps asking, and sometimes it can't hear anyone properly. The microphone in the program doesn't seem to pick up well. The teacher's voice also wasn't clear, and I don't like how this system works. Sometimes, I pronounced words incorrectly several times, but it still didn't pick them up, even though I was pronouncing them differently than before. (S3)

These technique barriers might occur in particular situations and specific groups of users. However, it should be addressed in terms of accessibility awareness as the SVIs rely on tactile functions to locate information either by using braille or electronic text.

Additional Experience as the Program Users

Theme 6: Balance Between Pronunciation and Comprehension

While the program excels in pronunciation, some participants mentioned that it would be beneficial if it could better support reading comprehension skills. S1 highlighted that after he completed the reading task, he was impressed by the program's ability to correct the mispronunciation of words in the passage. Nonetheless, this SVI articulated that practicing reading comprehension should not be neglected.

Extract 6

> Acknowledge that the program excels at developing pronunciation and speaking skills, but it may need to be supplemented with additional activities that foster comprehension. (S1)

In other words, this theme suggested enhancing the balance between reading aloud and reading comprehension to encompass the English reading skills of the SVIs.

In summary, the findings of this narrative-oriented study highlighted the impacts of using Microsoft's Reading Progress Program to develop the reading skills of SVIs. The structure derived from the narrations of participants elaborated their progression from initial perceptions of the program, followed by the challenges they encountered, to how they could integrate the tool to improve their reading skills and English communication, including the improvement of speaking and listening skills and other advantages to foster positive perspectives in utilizing technology to improve their English reading proficiency.

Discussion

This study investigates in-depth information on how students with visual impairment (SVIs) perceived and experienced using Microsoft's Reading Progress Program as an assistive tool to develop their reading skills along their English Language Learning (ELL) journey. Research conducted through Narrative Inquiry methodology, the findings offer under participants' storytelling both positive aspects and challenges to inclusive education elements. However, they also offer new perspectives on how assistive technology can be employed to promote the development of English reading skills among the SVIs. This discussion integrates the results with the literature, highlights insightful key information, and presents pedagogical implications drawn from the author's perspective.

Enhancing Reading Fluency and Pronunciation

One of the most prominent findings is the positive impact on reading fluency and pronunciation while using the program, particularly in the context of English as a Foreign Language (EFL) learners. Kim (2020) and Kuhn et al. (2010) highlight that reading fluency is vital because it is the bridge between word recognition and comprehension, enhancing the reading proficiency foundation. This also indicated that three core components of fluency in reading, which are accuracy, automaticity, and prosody, are supported by the

Reading Progress program (Salarvand et al., 2022). Most of the participants in this study expressed that the program helped them enhance their confidence in communication and allowed them to recognize and correct frequent pronunciation mistakes. This echoes previous findings that fluency can improve comprehension and communication (Tracey & Morrow, 2012). In line with this, the feedback feature of the Reading Progress program was particularly appreciated by participants, who recognized its role in detecting errors and providing corrective feedback. For instance, several participants mentioned that the program detected and selected the words they mispronounced and encouraged them to practice until they pronounced them correctly. This reinforces the notion that immediate feedback might be essential for language learners as it helps them refine their skills (Al-Kharusi, 2014). Nonetheless, while the program was beneficial in enhancing participants' pronunciation, some of them indicated that it was less effective for improving comprehension. This suggests that to develop reading comprehension, the comprehension challenges or exercises must be addressed separately as the additional task. As seen in the literature review, reading comprehension is the key pillar of reading proficiency and should not be overlooked nor fluency focused on alone (DiSalle & Rasinki, 2017). Therefore, teachers might consider adding complementary exercises to boost their comprehension and develop reading skills when using this program.

Accessibility Challenges

While the Reading Progress program shows significant benefits, the study also uncovered several accessibility challenges that need to be addressed. Technical issues such as microphone malfunctions, difficulties navigating the user interface, and complications with screen reader functions were elaborated as barriers that impeded the seamless use of the program during their first use. These issues correspond with the challenges reported by Jesso (2020) that despite the accessibility of Microsoft Teams, the SVI users still encounter obstacles in terms of setup and usability. However, the growing familiarity with the program was mentioned in the subsequent usage. For the SVIs, who often rely on screen readers or braille for navigating their reading, these technological difficulties can become significant obstacles. As indicated by Belova (2017) the accessibility of digital learning resources is crucial for the achievement of inclusive education; the absence of fully operational accessibility features might cause individuals with severe visual impairment difficulties in properly interacting with technology. This finding places a strong emphasis on the necessity of assistive technology to meet the particular requirements of the SVIs and to further support the inclusivity goals outlined in SDG Goal 4.

The Role of Listening in Reading Fluency

Another important theme emerging from this study is the role of listening in the reading process for the SVIs. For this group of learners, listening is a primary sensory channel which they majorly rely on for their language learning experience. Several participants in this study noted that by listening to different accents through the Reading Progress program helped them improve their pronunciation and fluency. This finding aligns with the findings addressed by Marpaung et al. (2022) that auditory learning optimized the input process for the SVIs. Additionally, the study revealed that not only reading strategies involving auditory elements, but also their listening tie back to a broader understanding of the integration between tactile or braille and auditory or recorded text or screen readers strategies to complete the reading tasks. This integration enhances their listening and pronunciation skills simultaneously. Moreover, it is evidenced that practicing reading aloud can be supported by listening, enhancing fluency and comprehension (Kuhn et al., 2010); however, it is crucial to note that how the SVIs process information differs from the sighted EFL learners. For the SVIs, reading comprehension activities are challenging, particularly when they apply skimming and scanning strategies, as they majorly rely on linear information processes (Belova, 2017). Therefore, focusing more on listening and fluency through reading exercises in the Reading Progress program can possibly bridge the gap in reading comprehension skills by reinforcing auditory learning strategies. However, it is essential to provide additional pedagogical interventions to ensure that SVIs can also improve their cognitive skills used in skimming reading tasks, which are less likely supported by auditory techniques.

The Importance of Learner Autonomy

Another novel contribution of this study lies in examining how assistive technologies like Reading Progress can promote learner autonomy among the SVIs. The program maximizes the learners' engagement in autonomous reading practice and minimizes their reliance solely on teacher input. This is particularly significant for SVIs, who frequently encounter barriers to independent learning due to their need for assistive tools or human assistance. The program's capacity to give corrective feedback and monitor processes independently fosters a sense of autonomy, which is important for cultivating lifelong learning skills. Furthermore, the finding corresponds with the research conducted by Marpaung et al. (2022) regarding the advantages of learner autonomy in language acquisition for SVIs. For the SVIs, learner autonomy enables them to develop their English language skills at their own pace, using strategies tailored to their specific requirements. Importantly,

when the SVIs were familiarised with the program, they mentioned using the program to extend their learning experiences outside the classroom to build confidence and continue communicative language development. Regarding the author's perspectives, the aspect of learner autonomy offers a viable direction for future research. Essentially, it would be worthwhile to investigate the combination of various assistive technologies to explore a holistic learning environment that promotes both autonomy and collaboration. For instance, the integration between the Reading Progress program and braille or tactile learning tools could provide a more comprehensive approach to developing the SVIs' reading skills.

Pedagogical Implications

The findings of this study suggest significant pedagogical implications for educators' preparation and implementation in several aspects. Firstly, incorporating reading skill development and technology was presented to show the potential of using the program to improve pronunciation and fluency in reading English among students with visual impairment. However, complementary activities to enhance reading comprehension activities should be provided to balance learners' development in reading skills as highlighted by DiSalle and Rasinski (2017) that fluency and comprehension are essential in reading proficiency development. Additionally, despite the benefits of technology integration, challenges were pointed out by participants in terms of accessibility issues. It is crucial that the educator should ensure the effective use of the selected tools by providing training and the accessibility must be aligned with the design to meet the needs of this group of learners (Jesso, 2020). Regarding the importance of listening skills, it is underscored that to develop reading skills in English language learning for the SVIs, listening is not merely a supplementary skill, but a vital part in their reading process. Hence, it may be more beneficial to the SVIs to complete reading activities incorporating listening-based techniques such as combining listening and reading in tasks. This integrating activity could be in accordance with their natural learning process to improve overall English proficiency (Setiawan et al., 2020). Finally, the vital concept to enhance inclusive education is the modification and accommodation to create tailored instruction to correspond to the unique needs of learners with visual impairment. The modification to facilitate reading skill development involves providing additional time for completing reading activities or offering tactile learning tools alongside the auditory ones. This is to underscore the importance of differentiated instructions as the key to diminishing the challenges encountered by the SVIs in English language learning (Lintangsari & Emaliana, 2020).

Limitations and Recommendations

Despite the insightful information derived from this study, several limitations should be addressed. The relatively small number of participants in this study may be unable to fully represent the whole population of students with visual impairment; however, the findings could be transferable to other similar contexts. Another limitation could be the limited exposure to the program, as the participants had only two opportunities to engage with the program. Additionally, the study focuses on the experience of the SVIs in using one program to improve one particular skill. In terms of recommendation, it is suggested that future research could explore how different assistive tools contribute to the English language learning process of the SVIs, including research with more opportunity for the students with special needs to engage with such assistive tools.

Conclusion

This study sheds light on how students with visual impairment perceive and experience Microsoft's Reading Progress program to develop their English language reading skills through Narrative Inquiry. All participants themselves were the main characters in this inquiry. Their reflections along their journey illustrated both successes and challenges in accordance with their visual limitation. While significant positive aspects were revealed, particularly regarding enhancing pronunciation ability, reading fluency, and learner autonomy, issues involving accessibility and balance between fluency and comprehension remain. These challenges highlight the need for continuous improvement in the integration of technology to improve English language skills and ensure full accessibility and user-friendliness for all students, especially learners with disabilities. One of the remarkable reflections from the study is the importance of using braille, the classic tool in reading. While a digital assistive tool like the Reading Progress program performs a well-developed function in terms of corrective feedback, braille, a tactile learning method, appears as an irreplaceable component of language literacy among SVIs, particularly in assisting them in spelling words correctly. Lastly, to educators working in inclusive education, this study serves as a reminder of the profound impact on individual learners' lives. Providing teaching to students with special needs requires not only pedagogical knowledge but also considerable patience, empathy, and creativity in order to create equity in an inclusive classroom. When incorporating assistive technology into classroom activities, bear in mind that the one-size-fits-all concept may not always be the solution; a broader framework of support and

tailored instruction are required both to help SVIs accomplish their ELL journey and to enlarge equity in inclusive education.

About the Author

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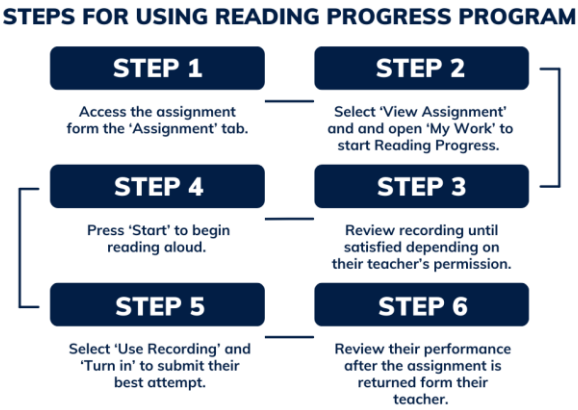
Appendix A

Steps to Use the Reading Progress Program in Microsoft Teams

The steps for using the Reading Progress feature in Microsoft Teams are as follows. Firstly, students access the assignment from their class team's General channel or the Assignments tab. Next, they should see the View Assignment button. To start the Reading Progress feature, students open the document under My Work. The app requires permission to access the camera and audio for recording. When the students are ready, they can press the button Start to begin their reading. After completing the task, they can review their recording and proceed with more attempts depending on their teacher's permission. When they are satisfied with their best attempt, students select Use this recording and then Turn in to submit. Students can review their reading performance after their teachers return the assignment. Finally, their reading results, including accuracy and other mistakes, will be reported in percentages and color-coded in the text from the passage. Five mispronounced words will be selected so the students can practice their pronunciation until corrected.



Reference: https://support.microsoft.com/en-us/topic/getting-started-with-reading-progress-in-teams-7617c11c-d685-4cb7-8b75-3917b297c407#ID0EDD=Students