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DEVELOPING DISGAME: A ROBLOX-BASED EDUCATIONAL GAME FOR YOUNG LEARNERS' LISTENING COMPREHENSION

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ABSTRAK

Listening comprehension merupakan keterampilan penting dalam pembelajaran bahasa Inggris karena menyediakan masukan bahasa yang diperlukan bagi proses pemerolehan bahasa. Namun, young learners sering mengalami kesulitan memahami bahasa Inggris lisan akibat keterbatasan paparan terhadap authentic language input dan minimnya aktivitas menyimak yang menarik. Penelitian ini bertujuan mengembangkan DISGAME (Diajar Inggris Sabari Ngagame), permainan edukatif berbasis Roblox yang dirancang untuk mendukung listening comprehension pada young learners melalui aktivitas pembelajaran interaktif berbasis audio. Penelitian menggunakan metode Research and Development (R&D) dengan model ADDIE, meliputi tahap Analysis, Design, Development, Implementation, dan Evaluation. Permainan dikembangkan menggunakan Roblox Studio dengan mengintegrasikan prinsip Total Physical Response (TPR), pembelajaran berbasis permainan, dan aktivitas menyimak dalam lingkungan belajar virtual. Hasil penelitian menunjukkan bahwa DISGAME berhasil dikembangkan sebagai media pembelajaran yang sepenuhnya berbasis audio, di mana pembelajar diminta merespons instruksi lisan melalui tindakan fisik dalam empat tahap permainan yang meningkat secara bertahap, mencakup pengenalan kosakata, sapaan, mengikuti arah, dan ejaan. Roblox terbukti berfungsi tidak hanya sebagai platform permainan, tetapi juga sebagai lingkungan belajar yang imersif dan interaktif. Penelitian ini menyimpulkan bahwa DISGAME berpotensi menjadi media pembelajaran alternatif untuk mendukung listening comprehension young learners dalam konteks English as a Foreign Language (EFL).

Kata Kunci: *listening comprehension*, pembelajaran berbasis permainan, Roblox, *Total Physical Response*, anak-anak

ABSTRACT

Listening comprehension is an essential skill in English language learning because it provides learners with the linguistic input necessary for language acquisition. However, young learners often experience difficulties in understanding spoken English due to limited exposure to authentic language input and a lack of engaging listening activities. This study aimed to develop DISGAME (Diajar Inggris Sabari Ngagame), a Roblox-based educational game designed to support young learners' listening comprehension through interactive, audio-based learning activities. The study employed a Research and Development (R&D) method using the ADDIE model, consisting of Analysis, Design, Development, Implementation, and Evaluation. The game was developed using Roblox Studio and integrates Total Physical Response (TPR) principles, game-based learning, and listening-focused activities within a virtual learning environment. The findings indicate that DISGAME was successfully developed as a fully audio-based learning medium in which learners are required to respond physically to spoken instructions across four progressively structured stages encompassing vocabulary recognition, greetings, direction-following, and spelling. Roblox proved to function not only as a gaming platform but also as an immersive, interactive learning environment that supported active engagement with spoken English. The study concludes that DISGAME has the potential to serve as an alternative learning medium for supporting young learners' listening comprehension in the English as a Foreign Language (EFL) context.

Keywords: listening comprehension, game-based learning, Roblox, Total Physical Response, young learners

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INTRODUCTION

Listening comprehension plays a fundamental role in language learning because it provides learners with the linguistic input necessary for language acquisition. Language acquisition occurs when learners are exposed to comprehensible input that they can understand, allowing them to acquire language naturally through meaningful exposure to language (Krashen, 1985). Through listening activities, learners are able to recognize vocabulary, understand meaning, and develop their overall language competence. Listening is also considered an active process in which learners construct meaning from spoken language by combining linguistic knowledge and contextual understanding (Rost, 2024). Empirical evidence from Indonesian early childhood settings further confirms that structured, action-based approaches can measurably improve listening outcomes; a recent experimental study found that the Total Physical Response method produced a significant increase in young learners' listening scores compared to conventional instruction, indicating that physically responsive techniques are particularly suited to strengthening this skill in its earliest stages (Tandilo Mamma & Sirjon, 2024). For young learners, listening is particularly important because it serves as one of the earliest channels through which they are exposed to a foreign language. Therefore, developing listening comprehension is essential for supporting successful English language learning among young learners (Krashen, 1985; Rost, 2024; Tandilo Mamma & Sirjon, 2024).

Insufficient listening skills may create significant barriers to language learning and communication. Learners who struggle to understand spoken English often experience difficulties in following instructions, interpreting messages, and responding appropriately in communicative situations. Listening comprehension is a complex process that requires learners to identify sounds, process meaning, and connect information with prior knowledge (Goh & Vandergrift, 2021). When listening comprehension is limited, learners may fail to understand the intended message, which can negatively affect their confidence and participation in language learning activities. In the context of English as a Foreign Language (EFL), poor listening skills may also hinder learners' ability to engage in meaningful communication because they are unable to accurately comprehend spoken input (Goh & Vandergrift, 2021). Similar challenges have also been documented beyond the EFL context; a study on the use of a visual novel game as a learning medium for basic Japanese listening comprehension found that learners commonly struggle with understanding spoken narrative context, and that interactive, illustration-supported media can help reduce fatigue while sharpening learners' focus during listening tasks (Marhamah et al., 2025).

Young learners often encounter difficulties in understanding spoken English due to their limited exposure to authentic language input and developing linguistic abilities. Listening activities may become challenging when learners are required to process unfamiliar vocabulary, pronunciation, and sentence structures simultaneously. Young learners learn more effectively through meaningful, engaging, and age-appropriate activities that allow them to actively participate in the learning process (Pinter, 2017). Approaches that engage learners physically have been shown to be especially effective for this age group; the integration of Total Physical Response principles into vocabulary instruction for young learners has been found to strengthen retention by connecting spoken input directly to bodily action, thereby reducing the cognitive burden of processing unfamiliar words in isolation (Afrianti & Rustipa, 2024). In a related study conducted in an Indonesian early childhood setting, the implementation of TPR was similarly reported to enhance young learners' responsiveness to English instruction by linking auditory input to concrete physical movement, reinforcing the notion that language input becomes more

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accessible to children when it is paired with action rather than delivered through passive listening alone (Fadlan et al., 2021). Therefore, English listening instruction for young learners should be designed in ways that maintain attention and encourage active engagement rather than relying solely on conventional listening exercises (Pinter, 2017).

Considering the challenges faced by young learners in developing listening comprehension, the use of educational games has emerged as a promising approach to support language learning. Educational games can create interactive learning environments that encourage learners to actively participate in learning activities while maintaining their motivation and engagement. Game-based learning combines educational content with game elements to promote meaningful learning experiences (Plass et al., 2020). In addition, educational games provide opportunities for learners to practice language skills repeatedly in enjoyable contexts, which may enhance learning outcomes (Plass et al., 2020). Several recent studies conducted in Indonesian educational contexts corroborate this pattern. A quasi-experimental study found that the use of an educational gaming website significantly improved both learning motivation and English vocabulary retention among young learners, suggesting that web-based game media can serve as an effective substitute for more conventional, less engaging instructional tools (Devi et al., 2025). Comparable results have been reported for gamified digital tools such as Wordwall, which was found to significantly improve students' vocabulary mastery in English instruction by transforming repetitive drilling into an interactive and enjoyable activity (Rohmatin, 2023). Traditional-style educational games adapted into classroom media have likewise demonstrated positive effects; the use of Bingo Game as a vocabulary-learning medium was found to progressively raise young learners' English vocabulary mastery across instructional cycles, indicating that even simple game formats can produce measurable gains when applied consistently (Tri Widyahening & Sufa, 2021). Beyond vocabulary, educational games have also been shown to support the development of other language skills; a literature-based study concluded that educational games play a significant role in developing young learners' English-speaking skills by simultaneously fostering motivation, vocabulary growth, and social interaction within the classroom (Setyaningsih, 2023). Game-based learning can also increase learners' engagement and motivation, both of which are important factors in successful language learning (Ratinho & Martins, 2023). For young learners, educational games are particularly beneficial because they align with children's preference for learning through play and active participation (Pinter, 2017).

Digital and technology-assisted games have further expanded the scope of what educational games can achieve for young learners. A game developed using the ADDIE model to stimulate 21st-century competencies through problem- and project-based digital maze activities was found to be valid and effective in engaging children aged 5–6 years, demonstrating that systematically designed digital games can support both cognitive skills and active participation among early learners (Sutama et al., 2024). Likewise, a mobile application-based educational game was shown to significantly improve young learners' English vocabulary recognition compared to passive video-based learning, underscoring the advantage of interactive digital media over one-directional instructional content (Febriani et al., 2025). In the elementary school context, the development of a Construct 2-based English learning game titled "Enjoylish Adventure," designed using the ADDIE model, was rated highly valid and practical by both teachers and students and was found to significantly improve fourth-grade students' English learning outcomes, reinforcing the pedagogical value of purpose-built digital games over generic instructional media (Sujarwo & Andaryani, 2024). Similarly, an educational game developed to support early reading skills in kindergarten was found not only to enhance

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students' reading ability but also to increase their enthusiasm and motivation toward literacy learning, suggesting that well-designed educational games can simultaneously target skill development and affective engagement (Juwiantho et al., 2025).

Among various digital gaming platforms, Roblox has emerged as one of the most popular platforms among children and young learners worldwide. Roblox allows users to interact within immersive three-dimensional virtual environments where they can explore, communicate, and complete various tasks. Roblox provides educational opportunities through interactive and collaborative virtual experiences that can support student engagement and learning (Han et al., 2023). In addition, Roblox-based environments have the potential to support English language learning by promoting learner motivation and active participation (Ramanujam & Ismail, 2024). This potential has begun to be substantiated in the Indonesian primary education context; the development of a Roblox-based educational game integrating local wisdom content through an ethnopedagogical approach, designed using the ADDIE model, was found to be valid and practical for elementary school learning, demonstrating that Roblox can be effectively adapted as an instructional platform beyond its original entertainment purpose to deliver contextually meaningful content to young learners (Putri et al., 2025). These characteristics make Roblox a promising platform for developing educational games that support listening activities through meaningful interaction and action-based learning (Han et al., 2023; Ramanujam & Ismail, 2024; Putri et al., 2025).

Previous studies have explored listening instruction, game-based learning, and the use of digital games in English language learning. Educational games have been reported to increase learners' motivation, engagement, and participation in language learning activities (Plass et al., 2020; Devi et al., 2025; Rohmatin, 2023). However, limited studies have focused on developing a Roblox-based educational game specifically designed to support listening comprehension among young learners in the Indonesian EFL context. Furthermore, Total Physical Response (TPR) has been widely recognized as an effective approach for young learners because it connects language input with physical actions (Xie, 2021; Larsen-Freeman & Anderson, 2011; Tandilo Mamma & Sirjon, 2024; Afrianti & Rustipa, 2024; Fadlan et al., 2021). Few studies have integrated TPR principles into a Roblox-based learning environment for listening activities. This gap highlights the need for the development of an interactive educational game that combines listening practice, TPR-based activities, and game-based learning within a platform that is familiar to young learners.

Therefore, this study aims to develop DISGAME (Diajar Inggris Sabari Ngagame), a Roblox-based educational game designed to support young learners' listening comprehension through interactive listening activities. The game integrates the principles of Total Physical Response (TPR) by encouraging learners to respond physically to audio instructions within a virtual learning environment. Developed using the ADDIE model, DISGAME consists of multiple listening-based stages that provide opportunities for learners to practice vocabulary recognition, greetings, direction-following, and spelling through engaging gameplay. It is expected that the developed game can serve as an alternative learning medium that supports listening instruction for young learners in the Indonesian EFL context.

METHODS

This study employs a Research and Development (R&D) method using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) to develop DISGAME (Diajar Inggris Sabari Ngagame), an educational game built on the Roblox platform designed to support listening comprehension skills among young learners. The ADDIE model was

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selected because it provides a systematic framework for developing learning media based on an analysis of learning needs and instructional objectives (Branch, 2009).

It should be stated clearly from the outset that this study is limited to the product development stage and functional/technical testing, and does not encompass learning effectiveness validation. These two types of testing are methodologically distinct and cannot substitute for one another: functional testing aims to ensure that the game's features, mechanics, and interaction systems operate as designed, whereas learning effectiveness validation aims to measure the extent to which the product genuinely improves learners' listening comprehension through empirical data such as pre-test/post-test scores, structured observation, or expert-validated assessment instruments. This study covers only the former type of testing.

The Analysis stage was carried out through a review of the literature on listening comprehension, the characteristics of young learners, Total Physical Response (TPR), game-based learning, and Roblox as a learning platform, in order to identify learning needs and product design specifications.

The Design stage involved formulating learning objectives, gameplay mechanics, the sequence of game stages, instructional audio scripts, and the user interaction scheme. The design was developed to integrate TPR principles with audio-based listening activities that do not rely on text (subtitle) support.

The Development stage constituted the process of translating the design into a functional product using Roblox Studio, encompassing the creation of a virtual environment, non-player characters (NPCs), audio instructions, interactive objects, a graphical user interface (GUI), and game scripts. The resulting product consists of four progressive game stages: (1) vocabulary introduction through object identification, (2) greetings and responses, (3) direction-following within maze navigation, and (4) fruit identification and spelling activities.

In the Implementation stage, the completed product was uploaded and published on the Roblox platform, after which it was run for internal functional/technical testing. The purpose of testing at this stage was solely to verify that all technical features functioned as intended, covering the smoothness of transitions between game stages, the functionality of the NPC system and audio-instruction triggers, the responsiveness of the object-interaction system and gate system, the functionality of the input mechanism in the spelling activity, and the ability of internal users to complete all stages without technical obstacles (bugs or system failures). Testing was conducted repeatedly by the development team (not by learners as research subjects), meaning that the results of this testing do not represent data on improvements in learners' listening comprehension, but rather only the product's technical readiness for use.

The Evaluation stage was formative in nature and was conducted throughout the development process through repeated testing and revision focused on the product's functionality and usability. Revisions made included adjustments to game flow, interaction mechanisms, and task sequencing to improve the product's technical consistency. Evaluation at this stage did not include the measurement of learners' learning outcomes.

This study explicitly states that expert judgment validation and learner try-out testing have not yet been carried out and are planned as part of subsequent research. Accordingly, the claims regarding DISGAME's potential to improve listening comprehension presented in the discussion section are theoretical, design-based hypotheses rather than empirical findings supported by score data, structured observation, or learning assessment instruments. Empirical measurement of learning effectiveness including pre-test/post-test design, the learner population and sample, an expert-validated listening test instrument, and the technique for analyzing learning outcome data will be the focus of the next stage of research.

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RESULTS AND DISCUSSION

Results

Analysis

The analysis phase was conducted to identify the learning needs of young learners and determine the appropriate characteristics of an educational game for listening instruction. Based on the literature review, listening comprehension was identified as one of the fundamental skills in English language learning because it provides learners with language input necessary for acquisition. However, young learners in EFL contexts often experience difficulties in understanding spoken English due to limited exposure to authentic language input and a lack of engaging listening activities. These challenges indicate the need for learning media that can provide meaningful listening practice while maintaining learners' motivation and participation.

Furthermore, the analysis considered the characteristics of young learners, who generally learn more effectively through interactive, enjoyable, and activity-based experiences. Therefore, the learning media was designed to incorporate game-based learning and Total Physical Response (TPR) principles, allowing learners to respond to audio instructions through actions performed within a virtual environment. In addition, Roblox was selected as the development platform because of its interactive features and popularity among children. Based on these findings, DISGAME was developed as a Roblox-based educational game that focuses on listening comprehension through audio-driven gameplay activities.

Design

During the design phase, the structure, learning objectives, gameplay mechanics, audio instructions, and user interactions of DISGAME were planned. The game was designed as a Roblox-based educational game that focuses on listening comprehension through audio-driven activities. To encourage active participation, the design integrated Total Physical Response (TPR) principles by requiring learners to respond to spoken instructions through movements and interactions within the virtual environment. All instructions were delivered in English through audio without subtitles to ensure that learners focused on listening rather than reading.

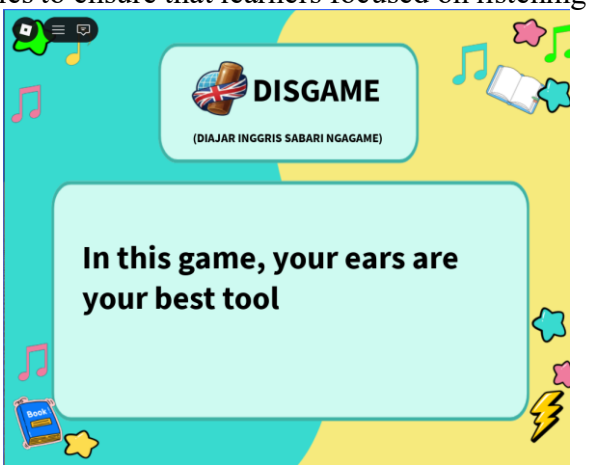

Figure 1. Introductory Interface of DISGAME

The introductory section was designed to familiarize learners with the game environment and collect basic information, including the player's name and school name. As shown in Figure 1, the introduction serves as the entry point to the game and prepares learners before they begin the listening activities.

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Following the introduction, learners progress through four stages that gradually increase in complexity. Each stage was designed to address different listening objectives, including vocabulary recognition, greetings and responses, direction-following, and spelling activities. The overall structure of the game is illustrated in Figure 2, which presents one of the learning environments used in DISGAME.

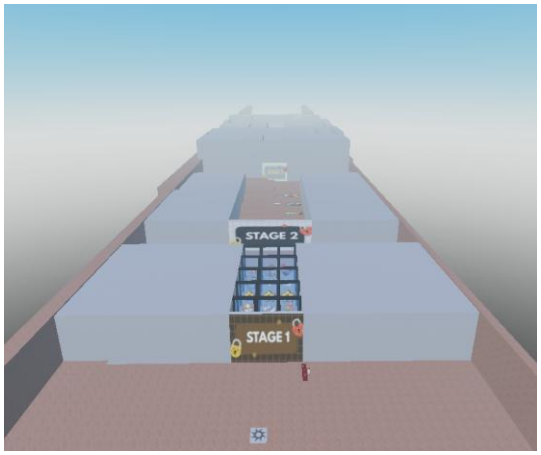

Figure 2. Stage Overview

The overall game flow was designed to guide learners through a series of listening-based tasks that require physical responses within the Roblox environment. Learners must listen carefully to audio instructions, identify the correct actions, and interact with objects or locations to progress through each stage. This design supports listening practice through repeated exposure to spoken English while simultaneously encouraging active learning through movement and interaction.

Development

Figure 3. NPC Interaction in Stage 1

The development phase focused on transforming the design specifications into a functional educational game using Roblox Studio. During this phase, various game components were created, including virtual environments, interactive objects, non-player characters (NPCs), audio instructions, graphical user interfaces (GUIs), and gameplay scripts. The development process emphasized the integration of listening activities into gameplay mechanics so that learners could interact with the game primarily through auditory input. All game assets and interactions were developed within the Roblox platform to ensure accessibility and familiarity for young learners.

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Figure 4. Choose the Door Activity in Stage 1

DISGAME was developed as a sequence of listening-based activities that gradually increased in complexity across four stages. Each stage was designed to support different listening objectives. Stage 1 focuses on vocabulary recognition through object identification tasks. Stage 2 introduces greetings and simple conversational responses. Stage 3 requires learners to follow spoken directions while navigating a maze environment. Finally, Stage 4 combines listening comprehension, vocabulary recognition, and spelling activities by requiring learners to identify fruits based on audio instructions, place the correct fruit on a designated stand, and type the fruit name correctly before progressing.

Figure 5. Fruit Identification and Spelling Activity in Stage 4

Several interactive systems were implemented to support gameplay. NPCs were programmed to deliver audio instructions and stage guidance (Figure 3). Learners then responded to the instructions through listening-based activities, such as selecting the correct door in Stage 1 (Figure 4). In the final stage, learners were required to identify the requested fruit, place it on a designated stand, and complete a spelling task by typing the fruit name correctly (Figure 5). These features were designed to integrate listening comprehension, physical response, and vocabulary learning within a single game environment.

Implementation

After the development process was completed, DISGAME was deployed on the Roblox platform and tested internally. The internal testing was conducted by peer reviewers, consisting of two members of the research team. The testing procedure involved systematically navigating through each stage of the game, verifying NPC dialogue triggers, audio playback, object interaction responses, and gate/door logic, with each feature tested a minimum of 3 times to

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confirm consistent functionality. All stages, NPC interactions, audio instructions, gate systems, object interactions, and spelling activities were tested to ensure that the game functioned as intended. It should be noted that this testing phase was conducted by the development team rather than by the target users (young learners), and was intended to verify technical functionality rather than to evaluate learning effectiveness; evaluation involving actual young learners is planned for future research. The testing confirmed that learners could progress through all stages and complete listening-based activities without major technical issues. The final version of DISGAME was published on Roblox and is available online at: https://www.roblox.com/games/126105704534833/DISGAME-V1

Evaluation

Formative evaluation was conducted throughout the development process through repeated internal testing of DISGAME. Each stage was reviewed to ensure that audio instructions, NPC interactions, object manipulation, stage progression, and spelling activities functioned properly. Several revisions were made during development, including adjustments to gameplay flow, interaction mechanics, and task sequencing to improve usability and learning consistency. These revisions helped ensure that the game aligned with its intended listening-learning objectives. However, expert validation and learner try-outs have not yet been conducted and are recommended for future research to evaluate the educational effectiveness and usability of DISGAME.

Discussion

DISGAME as a Listening Learning Medium

The findings indicate that DISGAME was developed as a listening-centered educational game in which learners rely primarily on audio instructions to complete gameplay activities. Unlike many educational applications that combine listening with extensive text support, DISGAME intentionally delivers instructions through audio without subtitles. This design encourages learners to focus on listening comprehension as the primary source of information. Listening is an active process that requires learners to construct meaning from spoken language (Rost, 2024). By requiring learners to listen carefully before making decisions or performing actions, DISGAME provides opportunities for learners to practice listening comprehension in an interactive learning environment. This finding is consistent with previous research showing that digital educational games can improve learners' listening performance by providing engaging and interactive listening experiences (Tevetoğlu & Korkmaz, 2024).

Furthermore, the progressive structure of DISGAME supports repeated exposure to spoken English. Throughout the four stages, learners repeatedly listen to instructions, identify information, and respond to audio cues. Repeated exposure to language input contributes to language acquisition and comprehension development (Newton & Nation, 2008). In addition, the use of repetitive listening activities within game-based tasks supports learner engagement, which is considered an important factor in successful language learning (Ratinho & Martins, 2023). Therefore, the design of DISGAME not only provides listening practice but also encourages learners to engage with spoken English repeatedly through meaningful gameplay activities.

Integration of Total Physical Response (TPR)

The development of DISGAME demonstrates the integration of Total Physical Response (TPR) principles through listening-based activities that require learners to respond

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physically to spoken instructions. Throughout the game, learners are not only required to listen to audio instructions but also to perform corresponding actions within the virtual environment, such as selecting the correct door, following directions in a maze, interacting with objects, and identifying requested items. These activities reflect the fundamental principle of TPR, in which language comprehension is developed through physical responses to verbal input (Xie, 2021). By combining listening tasks with movement and interaction, DISGAME provides learners with opportunities to actively process spoken language rather than passively receiving information.

The implementation of TPR can be observed throughout all stages of DISGAME, where learners are required to respond physically to spoken instructions. In Stage 1, learners listen to audio cues and select the correct door. In Stage 2, learners respond to greetings and simple conversational instructions through in-game interactions. Stage 3 requires learners to navigate a maze by following spoken directions, while Stage 4 involves identifying, collecting, and placing the requested fruit based on audio instructions before completing a spelling task. These activities reflect the core principle of TPR, which emphasizes the connection between language comprehension and physical action (Larsen-Freeman & Anderson, 2011). By requiring learners to demonstrate understanding through actions, DISGAME encourages active engagement with spoken language before learners are expected to produce written responses. Furthermore, this approach aligns with the characteristics of young learners, who generally learn more effectively through active participation, meaningful experiences, and engaging activities (Pinter, 2017).

Furthermore, the integration of TPR within a digital game environment extends traditional classroom applications of the method. Instead of responding through physical movements in a classroom setting, learners perform actions through their avatars in the Roblox environment. This finding supports the growing interest in combining interactive technologies with language learning approaches to create engaging learning experiences. By integrating listening activities, movement-based responses, and game mechanics within a virtual environment, DISGAME provides a contemporary application of TPR that is relevant to the learning preferences of today's young learners.

Roblox as an Educational Learning Environment

The findings indicate that Roblox served not only as a gaming platform but also as a learning environment that supported the implementation of listening-based activities in DISGAME. Through its three-dimensional virtual world, Roblox enabled learners to interact with objects, navigate different environments, and complete tasks based on audio instructions. These features allowed listening activities to be presented in a more immersive and interactive manner compared to conventional classroom exercises. As a result, learners were expected to engage with listening tasks through exploration, interaction, and problem-solving within the virtual environment.

The use of Roblox in DISGAME is consistent with findings that Roblox provides educational opportunities through interactive and collaborative virtual experiences that can enhance learner engagement (Han et al., 2023). Similarly, Roblox-based environments have been shown to support English language learning by increasing learner motivation and participation (Ramanujam & Ismail, 2024). In the present study, Roblox was utilized to create listening activities that required learners to actively respond to spoken instructions rather than merely listen to recorded audio. This suggests that Roblox can be adapted as a platform for developing educational games that integrate language learning objectives with meaningful gameplay experiences.

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Furthermore, the use of Roblox supports the characteristics of young learners, who generally prefer interactive and engaging learning experiences. Through avatar-based exploration and stage-based challenges, learners are encouraged to participate actively in learning tasks while maintaining their interest and motivation. This finding aligns with the view that digital game environments can provide meaningful learning opportunities by combining educational objectives with enjoyable activities (Plass et al., 2020). Therefore, the integration of Roblox into DISGAME demonstrates how a popular digital gaming platform can be utilized as an alternative learning environment to support listening instruction for young learners in the EFL context.

Game-Based Learning for Young Learners

The development of DISGAME also reflects the principles of game-based learning by integrating educational objectives into interactive gameplay activities. Rather than presenting listening exercises in a traditional format, DISGAME embeds learning tasks within game challenges that require learners to complete objectives in order to progress through different stages. This approach allows learners to engage with English listening activities in a more enjoyable and meaningful way while maintaining their motivation throughout the learning process.

The findings of this study support the argument that game-based learning can increase learner engagement and participation. Game-based learning environments can enhance motivation and engagement by providing challenges, goals, and interactive experiences (Hamari et al., 2016). Effective game-based learning combines educational content with game elements to create meaningful learning experiences (Plass et al., 2020). In DISGAME, listening activities were integrated into various gameplay mechanics, including door selection tasks, object identification activities, maze navigation, and spelling challenges. These activities encourage learners to actively participate in the learning process while simultaneously practicing listening skills.

Furthermore, the use of game-based learning is particularly relevant for young learners. Young learners tend to learn more effectively when learning activities are engaging, enjoyable, and involve active participation (Pinter, 2017). This characteristic is reflected in DISGAME, where learners interact with virtual environments, complete stage-based challenges, and receive continuous listening input throughout gameplay. Game-based learning has also been reported to contribute positively to English language learning by increasing learner engagement and participation (Earichappan & Hashim, 2024). Therefore, the integration of game-based learning principles in DISGAME may provide a more attractive learning experience for young learners while supporting the development of listening comprehension skills.

Strengths and Limitations of DISGAME

The developed game offers several strengths as a listening learning medium for young learners. First, DISGAME provides a fully audio-based learning experience in which learners rely primarily on listening rather than reading text. This design encourages learners to focus on listening comprehension throughout the gameplay. Second, the game integrates Total Physical Response (TPR) principles by requiring learners to respond to spoken instructions through movement and interaction within the virtual environment. Third, the use of Roblox as a learning platform enables learners to experience listening activities through immersive and interactive gameplay. In addition, the progressive structure of the four stages allows learners to practice

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different listening skills, including vocabulary recognition, greetings, direction-following, and spelling.

Despite these strengths, several limitations should be acknowledged. The present study focused primarily on the development of the game and formative evaluation through internal testing. Therefore, expert validation and learner try-outs have not yet been conducted. In addition, this study did not employ a validated listening comprehension measurement instrument, meaning that the actual impact of DISGAME on learners' listening achievement has not yet been empirically measured. The internal testing that was conducted was also limited in scope, as it was intended primarily to verify the technical functionality and usability of the game rather than to assess learning outcomes, and it did not directly involve the target users young learners in the testing process. These limitations should be taken into account when interpreting the scope and validity of the study's findings. Furthermore, the current version of DISGAME does not include a scoring system, achievement badges, or other reward mechanisms that may further enhance learner motivation. Future studies are recommended to involve experts and target users in evaluating the educational effectiveness, usability, and learning outcomes of the game. Additional features such as progress tracking, rewards, and performance assessment may also be incorporated to improve the learning experience.

CONCLUSION

This study developed DISGAME (Diajar Inggris Sabari Ngagame), a Roblox-based educational game designed to support young learners' listening comprehension through interactive and audio-based learning activities. The development process followed the ADDIE model, consisting of Analysis, Design, Development, Implementation, and Evaluation. The resulting game includes four progressive stages that provide listening practice through vocabulary recognition, greetings and responses, direction-following tasks, and spelling activities.

The findings suggest that DISGAME integrates listening instruction, Total Physical Response (TPR), and game-based learning principles within a Roblox learning environment. Through audio-driven gameplay and movement-based interactions, the game encourages learners to actively engage with spoken English while participating in meaningful learning activities. The use of Roblox also provides an immersive environment that supports learner engagement and participation.

However, this study was limited to the development and internal evaluation of the game. Expert validation and learner try-outs have not yet been conducted and should be addressed in future research. Further studies are recommended to evaluate the effectiveness of DISGAME in improving listening comprehension and to explore additional features that may enhance learners' motivation and learning outcomes.

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