

# The use of interactive games to improve listening skills in early childhood

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## Abstract

The purpose of this study is to utilize interactive games as an improvement of listening skills in early childhood. The method used in this study is the Classroom Action Research method of research design from Kemmis & Taggart. The subjects of this study were 12 children. This research was carried out in two actions (cycles). Each Action includes planning, execution, observation, and reflection. The data collection technique was obtained through test results and observation. The data analysis technique uses quantitative descriptive analysis and qualitative descriptive analysis. The results of the study in the pre-cycle averaged 31.25% to 68.75%, In the first cycle from 43.75% increased to 87.5% indicating an increase in listening ability, and in the second cycle it reached 75% to 100%. Thus, an increase in average achievement of 47.5% is empirical evidence that interactive games are able to improve listening skills in early childhood.

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## INTRODUCTION

Early childhood education (PAUD) is a crucial phase in building the foundation for children's cognitive, socio-emotional, and linguistic development. One of the important components of linguistic development is the ability to listen, which is the foundation for other language competencies, such as speaking, reading, and writing (Tarigan, 2021). Listening is not just the act of receiving sounds, but a multifaceted process that involves focusing, understanding, and interpreting the information received (Hurlock, 2022). Optimal listening skills from an early age have a significant impact on children's academic achievement and communication skills at the next level of education. Refers to the theory of language development Vygotsky Listening skills develop through social interaction and environmental stimulation that is rich in linguistic elements. In early childhood, listening skills are greatly influenced by auditory stimuli provided through educational activities, media resources, and interaction with educators and peers. In the context of early childhood education, effective educational media must be able to provide an easily accessible audio stimulus and stimulate children's active participation in the listening process.

Furthermore, based on Piaget's theory of cognitive development, it is proposed that children aged 4–6 years are in the preoperational stage, where they learn optimally through concrete, visual, and playful experiences (Papalia dkk., 2022). This shows that children's listening skills will not develop optimally if educational media is monotonous, abstract, or does not involve direct participation. Therefore, educational media that can convey information through visual and auditory channels at the same time is very important. This view is reinforced by the theory of Learning Multimedia Mayer (2020), explaining that processing information through visual and auditory channels simultaneously will improve a child's long-term understanding and memory.

Although listening is a crucial basic competency, the results of observations in the field show that many children still face challenges in developing this skill. Based on initial observations, it was identified that the majority of children showed a lack of focus in focusing attention during the delivery of educational materials by educators. Children appear vulnerable to external distractions, have difficulty maintaining concentration, and often fail to respond to verbal instructions. In a variety of situations, children also exhibit uncontrollable behavior, such as ignoring directions, ignoring the educator's explanation, or engaging in alternative activities while the educator is communicating. This phenomenon shows a deficiency in listening skills that has the potential to affect the achievement of holistic linguistic development. The main factors that contribute to this problem include: the number of educators who still use less interesting learning media, children's habits in operating gadgets or electronic devices from an early age that are not restricted, and the characteristics of the digital generation that require intensive visual and auditory stimulation. Traditional learning media with minimal color, audio, or animation variations are generally less able to maintain children's concentration.

These findings are in line with research Nuryana (2022) who argue that the use of static media, such as illustrations or printed books without interactive components, has lost its relevance to the learning needs of Generation Alpha children who are adaptive to technology. Children tend to prefer dynamic digital materials, which integrate sound elements, animated images, and provide an interactive experience. Furthermore, children's addiction to gadgets also contributes to a decrease in listening skills. Children who are used to watching videos or interacting with entertainment apps on their devices tend to experience decreased attention span as their brains adapt to rapid visual changes. When faced with an educational process that does not provide similar stimulation, children get bored quickly, have difficulty maintaining focus, and eventually cannot listen to instructions effectively (Pramudita, 2023). This condition also interferes with learning objectives, especially in developing listening skills, which require full concentration and responsiveness to the information presented.

To overcome this problem, the application of interactive games as an educational medium is considered the right and appropriate approach for early childhood. Interactive games are digital-based activities that integrate auditory, visual, and response elements that can stimulate children's linguistic, cognitive, and social development. These interactive games not only provide fun but also offer an efficient learning experience through the components of the game (Pratama & Dewi, 2023). By combining audio instructions, narrative,

challenges, and response options, children are encouraged to listen more effectively in order to continue playing. Interactive games adopt the principle of learning through play, which is in line with the characteristics of early childhood development. Through game mechanics that require children to understand instructions or listen to directions, interactive games can improve focus, auditory memory, and linguistic comprehension. Furthermore, interactive games provide hands-on feedback that challenges and motivates children to keep trying. This fosters an intrinsic motivation to listen better and complete the game accurately.

Interactive games are designed based on Cognitive Theory of Multimedia Learning Mayer (2020), which emphasizes that learning is most effective when information is conveyed through a combination of visual and audio elements that complement each other. The use of animations, sounds, music, and characters in the game makes the information easier to understand and appeals to children. Furthermore, interactive games support the principle of active learning, in which children are directly involved in educational activities, instead of just being passive recipients. This activity is very appropriate for early childhood cognitive development, which requires concrete concepts and hands-on experience. Interactive games are in line with behaviorist theory, which explains that reinforcement (rewards) play a role in motivating children's behavior. In the game, rewards are generally in the form of points, success animations, or new levels. This reinforcement encourages children to listen and follow instructions to complete challenges in the game. Thus, interactive games are not only engaging but also foster the habit of listening through repetitive responses.

Many studies have explored the effectiveness of digital media and interactive games on early childhood skill development. Sari & Nugroho (2021) It was found that the use of educational games significantly improved the listening skills of children aged 5–6 years. Their study showed that children became more focused, responsive, and able to follow instructions after several learning sessions using games. Furthermore, research Wijayanti (2022) shows that interactive audiovisual games can increase children's attention during educational activities. Children become more interested in participating in activities, and the level of distraction is significantly reduced. Rahmawati et al. (2023) it also found that interactive digital media can improve the understanding of early childhood instruction. Children who previously had difficulty responding to verbal instructions experienced an improvement after learning to use interactive media.

A recent study by Hidayat (2024) Emphasizing that interactive games are very effective in improving children's focus and listening skills. Children show increased concentration, enthusiasm, and the ability to understand narratives or instructions in games. However, most of these studies have not linked listening competence problems to addiction to mobile devices and the lack of engaging media in the school environment. Furthermore, studies that specifically examine the impact of interactive games on listening competence in the context of early childhood education (PAUD) are still limited.

Referring to the above background, interactive game media is seen as a potential approach to develop children's listening skills in a more interesting and meaningful way, this study seeks to explore the application of interactive game media as a tool to improve listening skills in early childhood in RA At-taqwa. Furthermore, the focus is on improving listening in children observed in this study, namely: children are able to concentrate when using interactive games take place, children are able to listen to simple instructions delivered by teachers, children can answer questions related to the material they have just heard, and children are able to show action responses according to instructions.

## METHOD

The research method applied in this study is Classroom *Action Research*. Classroom Action Research is implemented as one of the strategies to improve the efficiency and quality of education, especially in the process and learning outcomes of students at the classroom level. The purpose of Classroom Action Research (PTK) is to address learning challenges such as low focus, motivation, literacy competence, and social skills of children (Mahardika, 2024b). In this study, the research design from Kemmis & Mc Taggart is used which is a development of the basic concept introduced by Kurt Lewin, only the components of planning, acting with observation, and reflecting. The four components in the form of strands are seen as one cycle. Therefore, the meaning of cycle in this case is a cycle of activities consisting of planning, action, and reflection.

The location and time of the study was carried out at RA At-taqwa, West Bandung Regency. The subjects in this study involved group A children aged 4-5 years in RA At-taqwa, which amounted to twelve children, consisting of five boys and seven girls. The data collection technique was obtained from the results of observation and then analyzed using quantitative descriptive and qualitative descriptive analysis techniques. Quantitative descriptive analysis was applied to calculate the improvement in children's listening competence results based on the assessment score of each indicator, while qualitative descriptive analysis was used to describe changes in children's learning behavior, attention focus, and participation during the educational process through the use of interactive games. Success indicators are seen from the improvement of listening skills starting from the low category with the criteria of BB (Not Developed) with a score percentage of 0% to 25%, MB (Starting to Develop) with a score percentage of 26% to 50%, BSH (Developing as Expected) with a score percentage of 51% to 75%, and BSB (Very Well Developed) with a score percentage of 76% to 100%.

## RESULTS AND DISCUSSION

### Result

Based on the results of field observations of twelve group A children aged 4-5 years at RA At-taqwa, it was found that there was a significant improvement in listening ability by utilizing interactive games for children. This research uses the Classroom Action Research (PTK) method which is carried out in three stages, namely the pre-cycle, cycle I, and cycle II. Each stage observations were made on four indicators to improve children's listening skills, including: children are able to concentrate when using interactive games take place, children are able to listen to simple instructions delivered by teachers, children can answer questions related to the material they have just heard, and children are able to show action responses according to instructions. The results of the research that has been conducted by the researcher can be seen in the table below:

**Table 1.** Results of Pre-cycle Assessment of the Utilization of Interactive Games on Improving Listening Skills in Early Childhood Group A.

No	Name Children	Indicator				%
		Children are able to concentrate when using interactive games	Children are able to listen to simple instructions delivered by teachers	Children can answer questions related to the material they have just heard	The child is able to show action responses according to instructions	
		(1)	(2)	(3)	(4)	
1	AD	2	1	2	1	37,5
2	SLTN	2	1	2	2	43,75
3	HSN	1	1	1	2	31,25
4	IRYD	3	2	2	2	56,25
5	MGN	1	1	1	2	31,25
6	ALQ	2	2	2	2	50
7	NZM	1	1	1	2	31,25
8	NO	3	2	3	3	68,75
9	FTR	2	1	1	2	37,5
10	HMR	1	1	1	2	31,25
11	KNZ	2	2	1	2	43,75
12	LRS	1	1	2	2	37,5

**Description of Child Development Achievements:**

1. BB (Not Developed) with a value percentage of 0% to 25%
2. MB (Starting to Develop) with a score percentage of 26% to 50%
3. BSH (Developing As Expected) with a score percentage of 51% to 75%
4. BSB (Very Well Developed) with a score percentage of 76% to 100%

Based on observations at the pre-cycle stage, the ability to listen to early childhood ranges from 31.25% to 68.75%, with most children achieving scores below 50%. Of the 12 children, only 2 children obtained a score of 3 with the criteria of developing according to expectations, namely NR with 68.75% and IRYD with 56.25%, 10 children obtained a score of 2 with criteria for starting to develop, for example, children such as HSN, MGN, NZM, and HMR only achieved a score of 31.25%, and none (0%) obtained a score of 4 with very good development criteria. When analyzed based on indicators:

1. Focus attention during interactive games scored 1–2 where children are not fully able to concentrate on learning activities.
2. Listen to simple instructions. Most children still have difficulty understanding the teacher's instructions, as reflected in the low score on this indicator.
3. Answer questions based on the information heard. Many children can only give short or inaccurate answers.
4. Indicate actions as instructed. The responses shown are still varied and inconsistent.

In general, the pre-cycle stage shows that children's listening skills have not developed optimally, so steps are needed to improve their focus and understanding in the learning process.

**Table 2.** Results of the first cycle assessment of the use of interactive games on improving listening skills in early childhood group A.

No	Name Children	Indicator				%
		Children are able to concentrate when using interactive games	Children are able to listen to simple instructions delivered by teachers	Children can answer questions related to the material they have just heard	The child is able to show action responses according to instructions	
		(1)	(2)	(3)	(4)	
1	AD	2	2	3	2	56,25
2	SLTN	3	2	3	2	62,5
3	HSN	2	2	3	2	56,25
4	IRYD	3	3	2	3	68,75
5	MGN	2	3	2	2	56,25
6	ALQ	3	2	3	2	62,5
7	NZM	3	2	2	2	62,5
8	NO	3	3	4	3	87,5
9	FTR	3	2	2	2	56,25
10	HMR	2	1	2	2	43,75
11	KNZ	2	2	3	2	56,25
12	LRS	2	1	2	2	43,75

Based on the results of cycle I, there was an improvement in children's listening skills compared to the pre-cycle stage. The achievement percentage increased from 43.75% to 87.5%. Children such as NR (87.5%), SLTN (62.5%), ALQ (62.5%), and NZM (62.5%) showed significant improvement from the pre-cycle stage.

Meanwhile, children with low initial scores, such as MGN, HSN, and AD, also experienced an increase of up to 56.25%. In terms of indicators, progress can be described as follows:

1. Concentration increased to a score of 2–3.
2. Listening to the instructions began to show stability at scores of 2–3.
3. Answering questions improves according to children's understanding of the material.
4. Showing responses also shows progress, although still not completely consistent in some children.

In general, cycle I showed that the use of interactive games had a positive impact on the development of listening skills, although further refinement is still needed to achieve maximum results.

The results of Cycle I showed an improvement in listening skills, but some children still experienced instability in focus and response. Based on this reflection, interactive games were then further developed in cycle II, both in terms of content variation, interaction level, and clarity of instructions. This development is done so that children are more interested, easier to understand commands, and get stronger visual-auditory stimulation.

**Table 3.** Results of Assessment of Cycle II of the Utilization of Interactive Games on Improving Listening Skills in Early Childhood Group A.

No	Name Children	Indicator				%
		Children are able to concentrate when using interactive games	Children are able to listen to simple instructions delivered by teachers	Children can answer questions related to the material they have just heard	The child is able to show action responses according to instructions	
		(1)	(2)	(3)	(4)	
1	AD	4	3	4	3	87,5
2	SLTN	4	4	4	4	100
3	HSN	3	3	3	3	75
4	IRYD	4	4	3	4	93,75
5	MGN	4	3	4	4	93,75
6	ALQ	4	4	4	4	100
7	NZM	4	3	4	3	87,5
8	NO	4	4	4	4	100
9	FTR	3	3	3	4	81,25
10	HMR	4	3	3	4	87,5
11	KNZ	4	4	3	4	93,75
12	LRS	3	3	3	4	81,25

Meanwhile, in this second cycle, the progress achieved is very significant. Children's scores range from 75% to 100%, with most children falling into the excellent category. Children such as SLTN, ALQ, and NR achieved a score of 100%, while other children such as AD (87.5%), HMR (87.5%), and NZM (87.5%) also showed significant improvements compared to the previous cycle. Performance based on each indicator is very stable:

1. Concentration of attention achieved a score of 3–4.
2. Listening to the instructions was dominated by a score of 3–4.
3. Answering questions shows good understanding.
4. Responses to actions are consistent and in accordance with teacher instructions.

Overall, cycle II showed that interactive game use strategies were very effective in developing listening skills in early childhood.

Based on observations at the pre-cycle, cycle I, and cycle II stages, there is a gradual and stable progress in early childhood listening ability. In the pre-cycle stage, most children are still classified as low, with percentages ranging from 31.25% to 68.75%, indicating that they are not yet fully able to focus on attention, listen to instructions, answer questions, or respond appropriately. After the intervention was applied in cycle I through interactive play, the children's listening ability began to improve to a range of 43.75% to 87.5%, although some children showed inconsistent progress. Significant progress occurred in cycle II, where almost all children reached the good to very good category with a percentage of 75% to 100%. These results suggest that the use of interactive games can have a positive impact on the development of listening skills in childhood, as evidenced by improved children's ability to focus their attention, follow instructions, understand the information heard, and respond appropriately to teachers' instructions. In general, the results of the three stages reflect that the intervention has successfully achieved the research objectives.

## Discussion

The results of the pre-cycle show that children's listening skills are still relatively low. This condition is in line with the findings Suryani (2021), which states that early childhood easily loses concentration if the learning medium is not interesting or consists only of static visuals. In addition, the research Nuryana (2022), explained that the children of the digital generation need interactive and responsive media to maintain their attention during learning activities. In the pre-cycle stage, children are not used to structured verbal instructions, so they have difficulty answering questions or following the teacher's instructions. This is in line with contemporary language development theory, which states that listening skills develop optimally when children receive intensive stimulation through meaningful audio-visuals (Fitriani, 2023). It is explained by the lack of interactive media that supports children's participation in learning even though one of the ways to stimulate early childhood development is through providing teaching and education creatively, innovatively and creating an interesting and fun learning atmosphere in early childhood (Nafiqoh H & Wulansuci G, 2020).

In the first cycle, children's listening skills began to improve. This happens because children are starting to interact with interactive games, which according to Pratama & Dewi (2023), effective in increasing children's focus, motivation, and attention through visual and auditory elements as well as play activities. This increase is in line with the Cognitive Multimedia Learning Theory (Mayer 2020), which states that the delivery of information through visual and auditory channels simultaneously has a significant impact on children's understanding. Progress in children's responses in cycle I was due to: interactive games that encouraged children to listen to commands in order to continue playing, visual stimuli that reinforced their understanding of instructions, and in-game reward systems that motivated their participation (Siregar, 2022). However, some children still show instability in focus, which is in line with research Mahardika (2024), that some children take longer to adapt to new digital media.

A significant improvement in cycle II showed that interactive games were very effective in improving listening skills. Almost all children reach percentages above 80%, and some even reach 100%. This increase is in line with the results of the study Hidayati & Setiawan (2024), which states that interactive gaming digital media can improve attention span, instructional comprehension, and language skills in early childhood. In addition, the theory Vygotsky Updated by modern researchers (2021–2025) shows that children's interaction with interactive media is a form of digital scaffolding, where media provides visual-auditory support that helps children understand information more quickly. The success of cycle II can be explained by several factors: Children have become accustomed to following instructions through interactive games, The media used is becoming more diverse, thus avoiding boredom, The quick response of the game provides positive feedback for children (Pratama & Dewi, 2023), and children are actively involved in the process, in accordance with the dominant active learning concept in digital-era education.

Based on the results of classroom action research conducted in three stages (pre-cycle, cycle I, and cycle II), it can be concluded that the use of interactive games has proven to be effective in improving listening skills in early childhood. In the pre-cycle stage, children's listening ability is still in the low category due to the lack of interesting learning media and the children's inability to maintain focus. After implementing actions through interactive games, progress was seen in cycle I, where children began to show increased attention, were able

to follow simple instructions, and began to respond better to questions and tasks. Finally, in cycle II, almost all children reached the good to very good category, with stable attention, the ability to understand instructions, and an increasingly optimal response to tasks. Thus, the application of structured and consistent interactive games is very helpful in improving listening skills in early childhood.

The use of interactive games is very much in line with the characteristics of early childhood learning, especially children of the digital generation who need interesting visual and auditory stimuli. In the pre-cycle, children's inability to focus and understand instruction becomes the basis for the need to change the learning medium. In cycle I, teachers realize that children need to adapt to new media, so interactive games must be introduced gradually and combined with appropriate guidance. In cycle II, teachers observed that content variation, positive reinforcement, and appropriate play duration can maximize children's involvement. Overall reflection shows that learning with interactive games not only improves listening skills but also builds children's motivation, attention, and enthusiasm for learning. This emphasizes the importance of teachers continuing to innovate in choosing learning media according to the needs of children's development.

## CONCLUSION

This study was conducted in three stages, namely pre-cycle, cycle I, and cycle II, the results showed that the use of interactive games was effective in improving listening skills in early childhood. In the pre-cycle stage, children's listening skills are still relatively low, shown by a lack of concentration, difficulty understanding directions, and lack of response. This is due to the media being less attractive and not able to retain children's attention.

After the intervention in cycle I, listening skills began to show positive progress. Children appear to be more focused and better at following instructions, although some still need time to adapt to the new medium. Reflections from cycle I were then used to refine and develop interactive games, including variations in appearance, direction, and interactivity levels.

This development yielded real results in cycle II, where most children achieved good to excellent performance with more consistent improvement. Children are able to retain attention longer, understand instructions faster, and give more appropriate responses and answers. This improvement also shows that interactive games not only strengthen listening skills but also increase the child's motivation, curiosity, and active participation in learning.

Overall, the results of this study confirm that interactive games are an effective and appropriate learning approach for early childhood, especially in the digital era. These media have been shown to provide engaging audio-visual stimulation, provide immediate feedback, and create a more meaningful learning experience, allowing children to process information more optimally.

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