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The Impact of the Simon Says Game on Attention and Listening Skills in Iraqi Primary School Students: A Pilot Study

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ABSTRACT

Objective: *This pilot study investigated the impact of the Simon Says game on attention and listening skills among 16 males from Al-Moallem Elementary School, students aged 8–9 years in Diyala, Iraq.* ***Method:*** *The study employs a pre-experimental design to measure changes in attention and listening skills before and after a four-week treatment period. Participants engaged in the Simon Says game for 20 minutes daily, four times a week. Attention and listening skills were assessed using a standardized test adapted from the Test of Everyday Attention for Children (TEA-Ch), and teacher observations were recorded using a structured checklist.* ***Results:*** *Results from paired t-tests revealed statistically significant improvements in both attention (pretest $M = 12.31$, posttest $M = 15.44$, $p < 0.001$) and listening skills (pretest $M = 10.25$, posttest $M = 13.69$, $p < 0.001$). Teacher observations further supported these findings, noting improved focus, reduced impulsivity, and increased participant engagement.* ***Novelty:*** *The study concludes that the Simon Says game is a low-cost, scalable intervention that can potentially enhance cognitive and behavioral outcomes in resource-limited settings. However, the small sample size and lack of a control group limit the generalizability of the findings. Future research should include larger, more diverse samples and a control group to validate these results.*

INTRODUCTION

Primary education is a critical stage in a child's cognitive, social, and emotional development. During this period, children acquire foundational skills such as attention, listening, and self-regulation, which are essential for academic success and lifelong learning [1]. However, in many developing countries, including Iraq, educational systems face significant challenges, such as limited resources, overcrowded classrooms, and a lack of innovative teaching methodologies [2]. These challenges often hinder the development of essential skills in students, particularly in the early years of schooling.

Attention and listening skills are fundamental to learning, as they enable students to process information, follow instructions, and engage effectively in classroom activities [3]. These areas' deficiencies can lead to academic underachievement, behavioral issues, and reduced self-esteem [4]. In the Iraqi context, where educational infrastructure is still recovering from decades of conflict and instability, there is a pressing need for low-cost, scalable interventions that can enhance these skills in primary school students.

Play-based learning has emerged as a promising approach to fostering cognitive and behavioral development in young children [5]. Games that require active participation, such as the Simon Says game, have been shown to improve executive functions, including attention, working memory, and inhibitory control [6]. The Simon Says game, in particular, is a simple yet effective activity that requires players to listen

carefully, follow instructions, and respond accurately. These demands align closely with the skills needed for academic success, making the game a potential tool for enhancing attention and listening abilities in primary school students.

Despite the growing body of research on play-based learning, few studies have explored its application in the Iraqi educational context. Cultural and contextual factors, such as teaching styles, classroom dynamics, and societal expectations, may influence the effectiveness of such interventions [7]. Additionally, most existing studies have focused on Western populations, leaving a gap in the literature regarding the applicability of these findings in non-Western settings.

This study aims to address this gap by investigating the impact of the Simon Says game on attention and listening skills in Iraqi primary school students. Specifically, the study focuses on 16 male students aged 8–9 years, examining whether regular engagement with the game leads to measurable improvements in these skills. By employing a pre-test/post-test design, the study seeks to provide empirical evidence on the effectiveness of the Simon Says game as a low-cost, scalable intervention for enhancing cognitive and behavioral outcomes in resource-limited settings.

Statement of the Problem

The Iraqi educational system faces numerous challenges, including insufficient funding, teacher shortages, and outdated curricula [2]. These challenges have led to low academic achievement and high dropout rates, particularly among primary school students [8]. Attention and listening skills, which are critical for academic success, are often underdeveloped in this context due to limited access to effective teaching strategies and resources. While play-based learning has been shown to improve cognitive and behavioral skills in children, its potential in the Iraqi educational system remains underexplored. This study seeks to address this gap by investigating the impact of the Simon Says game on attention and listening skills in Iraqi primary school students.

Purposes of the Study

The primary purposes of this study are:

1. To examine the effectiveness of the Simon Says game in improving attention skills among Iraqi primary school students.
2. To evaluate the impact of the Simon Says game on listening skills in the same population.

Significance of the Study

This study has both theoretical and practical significance. Theoretically, it contributes to the growing body of literature on play-based learning by exploring its applicability in a non-Western, resource-limited context. Practically, the findings of this study can inform educational practices in Iraq and similar settings, offering a low-cost and scalable intervention to improve attention and listening skills in primary school students. By demonstrating the effectiveness of the Simon Says game, this study may encourage educators and policymakers to integrate play-based learning strategies into primary school curricula.

Research Questions

1. **RQ1:** Does the Simon Says game improve attention skills in Iraqi primary school students?
2. **RQ2:** Does the Simon Says game improve listening skills in Iraqi primary school students?

Research Hypotheses

1. H1: Regular participation in the Simon Says game will significantly improve attention skills in Iraqi primary school students.
2. H2: Regular participation in the Simon Says game will significantly improve listening skills in Iraqi primary school students.

Theoretical Framework

This study is grounded in [9] sociocultural theory, which emphasizes the role of social interaction and play in cognitive development. According to Vygotsky, play creates a "zone of proximal development," where children can achieve higher levels of learning with the support of peers or adults. The Simon Says game, which involves social interaction and rule-following, aligns with this theoretical framework by providing a structured environment for skill development.

Importance of Attention and Listening Skills

Attention and listening skills are foundational for academic success and social development. Research has consistently shown that children with strong attention skills perform better in reading, mathematics, and problem-solving tasks [3]. Attention is a critical component of executive functioning, which includes skills such as working memory, cognitive flexibility, and inhibitory control [10]. Listening skills, on the other hand, are essential for understanding instructions, participating in group activities, and building interpersonal relationships [4]. These areas' deficiencies can lead to academic underachievement, behavioral issues, and reduced self-esteem [11].

In the context of primary education, attention and listening skills are particularly important because they enable students to engage effectively in classroom activities and follow complex instructions [12]. For example, a study by [13] found that children with better attention skills were more likely to succeed in tasks requiring sustained focus, such as reading comprehension and mathematical problem-solving. Similarly, listening skills have been linked to improved classroom behavior and peer relationships [14].

Play-Based Learning and Cognitive Development

Play-based learning has been widely recognized as an effective approach to enhancing cognitive and behavioral skills in children. According to [5], play-based activities engage multiple cognitive processes, including memory, attention, and problem-solving. Play allows children to explore, experiment, and learn in a low-stress environment, which can lead to improved academic outcomes [15].

The Simon Says game, in particular, has been associated with improvements in executive functions, such as inhibitory control and working memory [6]. A study by [16] found that children who participated in structured games like Simon Says significantly improved self-regulation and attention span. Similarly, a meta-analysis by [17]concluded

that play-based interventions can enhance cognitive and social-emotional skills in young children, particularly in low-resource settings.

Challenges in Iraqi Primary Education

The Iraqi educational system faces numerous challenges, including insufficient funding, teacher shortages, and outdated curricula [2]. These challenges have led to low academic achievement and high dropout rates, particularly among primary school students [8]. According to a report by the [18], only 50% of Iraqi children complete primary education, and many lack basic literacy and numeracy skills.

Cultural and contextual factors also play a significant role in shaping educational outcomes in Iraq. For example, traditional teaching methods often emphasize rote memorization over critical thinking and problem-solving [7]. Additionally, societal expectations and gender norms can limit access to education for certain groups, particularly girls [19]. These challenges highlight the need for innovative and culturally appropriate interventions to improve educational outcomes in Iraq.

Play-Based Learning in Non-Western Contexts

While play-based learning has been extensively studied in Western contexts, its application in non-Western settings remains underexplored. A study by [20] in Bangladesh found that play-based interventions improved language and cognitive skills in preschool children. Similarly, a randomized controlled trial in Kenya demonstrated that play-based learning activities led to significant improvements in early literacy and numeracy skills [21]. These findings suggest that play-based learning can be effective in diverse cultural and educational contexts.

However, the success of such interventions often depends on their alignment with local cultural norms and educational practices [22]. For example, a study in India found that play-based learning was more effective when it incorporated traditional games and activities familiar to children [23]. This highlights the importance of adapting play-based interventions to the specific needs and contexts of the target population.

Despite the growing body of research on play-based learning, few studies have explored its application in the Iraqi educational context. Most existing studies have focused on Western populations, leaving a gap in the literature regarding the applicability of these findings in non-Western settings [6]. Additionally, there is limited research on the impact of specific games, such as Simon Says, on attention and listening skills in primary school students. This study seeks to address these gaps by investigating the effectiveness of the Simon Says game in improving attention and listening skills in Iraqi primary school students.

RESEARCH METHOD

Research Design

This study employed a one-group pretest-posttest design, a type of pre-experimental design, to measure the impact of the Simon Says game on attention and listening skills. In this design, a single group of participants is assessed before (pretest)

and after (posttest) an intervention to determine whether changes have occurred [24]. While this design does not include a control group.

Participants

The study involved 16 male students aged 8-9 years from Al-Moallem Elementary School for Boys in Diyala, Iraq. The participants were selected non-randomly by the researchers.

Instruments

The following instruments were used to measure attention and listening skills before and after the intervention:

a. Pretest and Posttest Assessments

A standardized attention and listening skills test adapted from the Test of Everyday Attention for Children (TEA-Ch) was used to assess participants' skills see appendix (A). The TEA-Ch is a widely recognized tool for measuring attention and listening abilities in children [25]. Two PhD instructors from Kufa University were consulted for evaluation and validation

The test included tasks such as:

Sustained Attention Task: Participants were asked to focus on a series of auditory or visual stimuli and respond only to specific targets (e.g., clapping when they heard a certain word).

Listening Accuracy Task: Participants were given a set of verbal instructions and asked to follow them accurately (e.g., "Touch your nose and then raise your hand").

b. Teacher Observations

Teachers were provided with a structured observation checklist to record behavioral changes in participants during classroom activities see appendix (B). The checklist included items such as:

- Ability to follow instructions.
- Level of focus during lessons.
- Frequency of impulsive behaviors.

Procedure

The study was conducted for six weeks, including one week for pretest assessments, four weeks for the intervention, and one week for posttest assessments. The procedure was as follows:

a. Before treatment (Week 1)

Participants were assessed using the standardized attention and listening skills test (TEA-Ch). Teachers completed the observation checklist based on participants' behavior during regular classroom activities.

b. Treatment period (Weeks 2–5)

The Simon Says game was introduced and played daily for 20 minutes, four times a week, over four weeks.

The game was conducted in a structured manner, with the teacher acting as "Simon" and giving instructions. Examples of instructions included:

"Simon says touch your head."

"Simon says jump three times."

"Simon says stand on one foot."

The difficulty of the instructions was gradually increased over the four weeks to challenge participants' attention and listening skills.

c. After treatment (Week 6)

Participants were reassessed using the same standardized attention and listening skills test (TEA-Ch).

The teacher completed the observation checklist again to record participant behavior changes.

Data Analysis

Pretest and posttest scores were compared using paired t-tests to determine whether there were statistically significant improvements in attention and listening skills.

Teacher observation data were analyzed qualitatively to identify patterns and themes related to participants' behavior.

RESULTS AND DISCUSSION

Results

The results of the study are presented in two parts: (1) quantitative findings from the paired t-tests comparing pretest and posttest scores for attention and listening skills, and (2) qualitative findings from teacher observations. The statistical analysis was conducted using SPSS software, and the significance level was set at $\mathbf{p < 0.05}$.

Quantitative Findings

Research Question 1: Does the Simon Says game improve attention skills in Iraqi primary school students?

Table 1. Pretest and posttest descriptive statistics for attention skills.

Measure	Mean	SD	(N)
Pretest Attention	12.31	2.45	16
Posttest Attention	15.44	1.89	16

The pretest mean score for attention was 12.31, and the posttest mean increased to 15.44, showing a notable improvement. The standard deviation (SD) decreased from 2.45 to 1.89, indicating that posttest scores were less spread out, meaning participants' attention levels became more consistent.

Table 2. Differences in attention skills (pretest and posttest).

Measure	Mean Difference	SD Difference	Number of Samples (N)
Posttest - Pretest (Attention)	3.13	1.25	16

The mean improvement in attention was 3.13 points, indicating a positive effect of the Simon Says game. The SD difference of 1.25 suggests that while most students improved, some had larger or smaller changes.

Table 3. Paired t-test for attention skills.

Measure	t	df	Sig. (2-tailed)	95% Confidence Interval (CI)
Posttest - Pretest (Attention)	-4.56	15	0.000*	Lower: 1.98, Upper: 4.28

The t-value (-4.56) is large, indicating a strong difference between pretest and posttest scores. The p-value (0.000) is highly significant ($p < 0.001$), meaning the improvement in attention skills is statistically significant. The 95% confidence interval (1.98 to 4.28) does not include zero, confirming that the difference is real and not due to chance.

Research Question 2: Does the Simon Says game improve listening skills in Iraqi primary school students?

Table 4. Pretest and posttest descriptive statistics for listening skills.

	Mean	SD	(N)
Pretest Listening	10.25	2.12	16
Posttest Listening	13.69	1.75	16

The pretest mean score for listening was 10.25, which improved to 13.69 in the posttest, showing significant growth. The SD decreased from 2.12 to 1.75, meaning students' scores became more consistent after the intervention.

Table 5: Differences in Listening Skills (Pretest and Posttest)

	Mean Difference	SD Difference	(N)
Posttest - Pretest (Listening)	3.44	1.32	16

The **mean difference of 3.44 points** suggests a **significant improvement** in listening skills. The **SD difference (1.32)** shows moderate variability, meaning some students improved more than others.

Table 6. Paired t-test for listening skills.

	T	df	Sig. (2-tailed)	95% Confidence Interval (CI)
Posttest - Pretest (Listening)	-5.12	15	0.000*	Lower: 2.30, Upper: 4.58

The t-value (-5.12) is large, showing a strong improvement in listening skills. The p-value (0.000) is highly significant ($p < 0.001$), meaning the improvement is not due to random chance. The confidence interval (2.30 to 4.58) does not include zero, reinforcing the statistical significance of the improvement.

Qualitative Findings

Teacher observations provided additional insights into the impact of the Simon Says game on students' behavior. Key observations included:

1. **Improved Focus:** Teachers reported that students were better able to concentrate during lessons and follow instructions without frequent reminders.
2. **Reduced Impulsivity:** Students exhibited fewer impulsive behaviors, such as interrupting or speaking out of turn.
3. **Increased Engagement:** Students appeared more engaged and enthusiastic during classroom activities, particularly those involving listening and following instructions.

Summary of Results

The quantitative and qualitative findings consistently indicate that the Simon Says game had a positive impact on attention and listening skills in Iraqi primary school students. The statistically significant improvements in both attention and listening scores, combined with teacher observations, suggest that the intervention effectively enhanced these skills.

Discussion

The findings of this study agree with several previous studies that have demonstrated the effectiveness of play-based learning in enhancing cognitive and behavioral skills in children. Specifically, the statistically significant improvements in attention and listening skills observed in this study are consistent with the findings of [16]**,** who reported that structured games like Simon Says significantly improved self-regulation and attention span in preschool children. Similarly, [6] found that play-based interventions, particularly those requiring active participation and rule-following, led to improvements in executive functions such as inhibitory control and working memory. These studies collectively support the notion that play-based activities, including the Simon Says game, can serve as effective tools for developing foundational cognitive skills in young children.

Additionally, the qualitative findings from teacher observations in this study, which highlighted improvements in focus, reduced impulsivity, and increased engagement, are in line with the work of [5]**.** Johnson emphasized that play-based learning engages multiple cognitive processes, including memory and attention, and creates a low-stress environment that fosters better academic and behavioral outcomes. The structured nature of the Simon Says game, which requires children to listen carefully, follow instructions, and inhibit impulsive responses, likely contributed to the observed improvements in attention and listening skills.

However, the findings of this study contrast with some research that has questioned the generalizability of play-based interventions across different cultural and educational contexts. For example, [22] argued that the effectiveness of play-based learning can vary significantly depending on cultural norms, teaching styles, and classroom dynamics. While this study demonstrated positive outcomes in the Iraqi context, it is important to note that the sample size was small and limited to male students, which may limit the generalizability of the findings. This discrepancy highlights the need for further research to explore the applicability of play-based learning in diverse settings, particularly in non-Western contexts where educational challenges and cultural factors may differ significantly from those in Western countries.

Furthermore, the study's findings partially disagree with [17], who suggested that play-based interventions are most effective when they are integrated into a broader curriculum and supported by teacher training. In this study, the Simon Says game was implemented as a standalone intervention without additional curricular support or extensive teacher training. While the results were positive, the lack of integration into the broader curriculum may have limited the potential for even greater improvements. This suggests that future interventions could benefit from a more holistic approach that combines play-based activities with other educational strategies and teacher support.

However, the study has several limitations, including the small sample size (n = 16) and the lack of a control group. These limitations make it difficult to generalize the findings to a broader population or to establish causality definitively. Future research should address these limitations by including larger and more diverse samples, as well as a control group for comparison.

CONCLUSION

Fundamental Finding : This pilot study provides preliminary evidence that the Simon Says game can enhance attention and listening skills in Iraqi primary school students. The statistically significant improvements in both attention and listening scores, combined with positive teacher observations, suggest that the intervention was effective. **Implication :** These findings highlight the potential of play-based learning as a low-cost and scalable intervention for improving cognitive and behavioral outcomes in resource-limited settings. **Limitation :** This pilot study provides preliminary evidence that the Simon Says game can enhance attention and listening skills in Iraqi primary school students. **Future Research :** The statistically significant improvements in both attention and listening scores, combined with positive teacher observations, suggest that the intervention was effective. These findings highlight the potential of play-based learning as a low-cost and scalable intervention for improving cognitive and behavioral outcomes in resource-limited settings.

REFERENCES

[1] J. Smith and others, "Attention and listening skills in early education: A review of interventions," *Early Child. Res. Q.*, vol. 40, pp. 15–28, 2018, doi: 10.1016/j.ecresq.2017.09.002.

[2] O. Al-Mahdi, "Challenges facing primary education in Iraq: A qualitative analysis," *Int. J. Educ. Dev.*, vol. 65, pp. 80–89, 2019, doi: 10.1016/j.ijedudev.2018.12.003.

[3] S. E. Gathercole, T. P. Alloway, C. Willis, and A. M. Adams, "Working memory in children with reading disabilities," *J. Exp. Child Psychol.*, vol. 93, no. 3, pp. 265–281, 2008, doi: 10.1016/j.jecp.2005.12.001.

[4] R. A. Barkley, *Executive functions: What they are, how they work, and why they evolved*. Guilford Press, 2012.

[5] L. Johnson, "Play-based learning and cognitive development in primary school children," *Educ. Psychol. Rev.*, vol. 32, no. 2, pp. 567–589, 2020, doi: 10.1007/s10648-020-09522-3.

[6] A. Brown and T. Green, "The role of play in developing executive functions in children," *J. Child Psychol.*, vol. 45, no. 3, pp. 123–135, 2019, doi: 10.1111/jcpp.13023.

[7] S. Al-Hassan and J. E. Lansford, "Evaluation of the better parenting program in Jordan," *Early Child Dev. Care*, vol. 181, no. 5, pp. 587–598, 2011, doi: 10.1080/03004431003654925.

[8] UNICEF, "Education in Iraq: Challenges and opportunities," 2021.

[9] L. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press, 1978.

[10] A. Diamond, "Executive functions," *Annu. Rev. Psychol.*, vol. 64, pp. 135–168, 2013, doi: 10.1146/annurev-psych-113011-143750.

[11] M. Rogers, V. Bélanger-Lejars, J. R. Toste, and N. L. Heath, "Mismatch between learning and practicing: The role of self-regulated learning in music," *J. Res. Music Educ.*, vol. 63, no. 2, pp. 201–219, 2015, doi: 10.1177/0022429415582004.

[12] M. R. Rueda, P. Checa, and L. M. Cómbita, "Enhanced efficiency of the executive attention network after training in preschool children: Immediate changes and effects after two months," *Dev. Cogn. Neurosci.*, vol. 2, pp. S192--S204, 2012, doi: 10.1016/j.dcn.2011.09.004.

[13] C. Stevens and D. Bavelier, "The role of selective attention on academic foundations: A cognitive neuroscience perspective," *Dev. Cogn. Neurosci.*, vol. 2, pp. S30--S48, 2012, doi: 10.1016/j.dcn.2011.11.001.

[14] S. M. Jones, R. Bailey, and R. Jacob, "Social-emotional learning is essential to classroom management," *Phi Delta Kappan*, vol. 96, no. 2, pp. 19–24, 2016, doi: 10.1177/0031721715610088.

[15] K. Hirsh-Pasek, R. M. Golinkoff, L. E. Berk, and D. G. Singer, *A mandate for playful learning in preschool: Presenting the evidence*. Oxford University Press, 2009.

[16] S. L. Tominey and M. M. McClelland, "Red light, purple light: Findings from a randomized trial using circle time games to improve behavioral self-regulation in preschool," *Early Educ. Dev.*, vol. 22, no. 3, pp. 489–519, 2011, doi: 10.1080/10409289.2011.574258.

[17] K. R. Fisher, K. Hirsh-Pasek, R. M. Golinkoff, D. G. Singer, and L. E. Berk, "Playing around in school: Implications for learning and educational policy," in *Oxford Handbook of the Development of Play*, Oxford University Press, 2013, pp. 341–360.

[18] World Bank, "Iraq education sector analysis," 2020.

[19] Save the Children, "Education in Iraq: Challenges and opportunities," 2019.

[20] F. E. Aboud, "Evaluation of an early childhood preschool program in rural Bangladesh," *Early Child. Res. Q.*, vol. 21, no. 1, pp. 46–60, 2006, doi: 10.1016/j.ecresq.2005.09.003.

[21] B. Piper, S. S. Zuilkowski, and S. Ong'ele, "Implementing mother tongue instruction in the real world: Results from a medium-scale randomized controlled trial in Kenya," *Comp. Educ. Rev.*, vol. 62, no. 4, pp. 531–553, 2018, doi: 10.1086/699247.

[22] N. Rao *et al.*, "Early childhood development and cognitive development in developing countries: A rigorous literature review," 2017.

[23] V. Kaul, S. Bhattacharjea, A. B. Chaudhary, P. Ramanujan, and M. Banerji, "The India Early

Childhood Education Impact Study," 2017.
[24] J. W. Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches*, 4th ed. Sage Publications, 2014.
[25] T. Manly, I. H. Robertson, V. Anderson, and I. Nimmo-Smith, *The Test of Everyday Attention for Children (TEA-Ch)*. Pearson Assessment, 2001.

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