

**LOW-ENERGY GAMES AS AN EFFECTIVE TOOL FOR INCREASING  
ENGAGEMENT OF SPECIAL NEEDS LEARNERS IN INCLUSIVE  
EDUCATION**

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**Abstract**

Inclusive education requires effective strategies to ensure the active participation of learners with special needs. This study explores the role of low-energy games as a pedagogical tool for increasing engagement among special needs learners in inclusive classroom settings. Using a mixed-methods approach, the research was conducted in inclusive primary classrooms, involving both qualitative observations and quantitative measures of student participation and attention. The intervention included structured low-energy games designed to minimize physical strain while promoting cognitive involvement, social interaction, and emotional comfort. The results indicate a significant improvement in student engagement, including increased attention span, participation in group activities, and positive peer interaction. Teachers also reported reduced behavioral challenges and improved classroom dynamics. The findings suggest that low-energy games provide an accessible and adaptable method for supporting diverse learners, particularly those with physical, cognitive, or sensory limitations. The study concludes that integrating low-energy games into inclusive education practices can enhance engagement and contribute to a more supportive and effective learning environment. Practical implications for educators and recommendations for further research are discussed.

**Keywords:** Inclusive education; special needs learners; low-energy games; student engagement; classroom participation; differentiated instruction; active learning; educational strategies

**Introduction**

In recent decades, inclusive education has become a central principle in global educational policy, aiming to provide equitable learning opportunities for all students,

including those with special needs. Learners with physical, cognitive, or developmental challenges often face barriers to active participation in mainstream classrooms. These barriers may include limited attention span, sensory sensitivities, fatigue, and difficulties in social interaction, which can reduce their overall engagement and academic progress.

Student engagement is widely recognized as a key factor influencing learning outcomes. Engaged learners are more likely to participate actively, maintain attention, and develop positive relationships with peers and teachers. However, traditional teaching methods may not adequately address the diverse needs of special needs learners in inclusive settings. As a result, educators are increasingly seeking adaptive and student-centered strategies to foster meaningful participation.

One promising approach is the use of low-energy games—structured activities that require minimal physical exertion while promoting cognitive, emotional, and social involvement. These games are particularly beneficial for learners who may experience fatigue, mobility limitations, or sensory overload. By creating a relaxed and supportive learning environment, low-energy games can help reduce anxiety, improve focus, and encourage interaction among students.

Despite growing interest in game-based learning, limited research has specifically examined the impact of low-energy games on the engagement of special needs learners in inclusive classrooms. This study aims to address this gap by investigating how such games can be effectively integrated into teaching practices to enhance participation and learning outcomes.

The purpose of this research is to evaluate the effectiveness of low-energy games as a tool for increasing engagement among special needs learners in inclusive education. It is hypothesized that the implementation of these activities will lead to improved attention, participation, and social interaction within the classroom.

## Literature Review

Inclusive education has been widely studied as a modern educational approach aimed at ensuring equal learning opportunities for all students, particularly those with special educational needs. According to Rustamov (2024), inclusive education is defined as a system in which all learners, regardless of their abilities, study together while receiving

the necessary support tailored to their individual needs . This concept emphasizes accessibility, equality, and the removal of barriers that hinder participation.

Several researchers have highlighted the importance of engagement in inclusive classrooms. Ibragimova and Rasulova (2025), in their work *“Procedures for Engaging Children in Inclusive Education,”* emphasize that active participation is a key indicator of successful inclusion and requires the use of adaptive teaching strategies and supportive learning environments . Similarly, Abduazizova and Ne’matova (2025) identify major barriers such as lack of appropriate methods, insufficient teacher training, and limited resources, all of which negatively affect student engagement in inclusive settings.

Modern pedagogical approaches increasingly focus on individualized and innovative teaching strategies. Azimova et al. (2025), in *“Modern Approaches to Special Pedagogy in Inclusive Education,”* stress the importance of differentiated instruction, psychological support, and the adaptation of educational environments to meet diverse learner needs. Their findings indicate that innovative and flexible teaching methods significantly enhance participation and learning outcomes among students with special needs .

Game-based learning and gamification have emerged as effective tools for increasing student motivation and engagement. Rosero and Inga (2025), in their study *“Transforming Inclusive Education Through Gamification and Active Learning Strategies,”* demonstrate that the use of game elements in education can improve participation, motivation, and accessibility for learners with disabilities. They argue that gamification creates a more interactive and inclusive learning experience, fostering both cognitive and social development .

In addition, Shuxratov and Ismoilova (2025), in *“Innovative Pedagogical Approaches for Students with Special Educational Needs,”* highlight that modern teaching technologies and interactive methods help students with special needs better adapt to the learning environment and enhance their academic performance . These approaches support the idea that engagement can be improved through structured and student-centered activities.

Furthermore, the article *“Inklyuziv ta’limning zamonaviy ta’limdagi istiqbollari”* by Abduraximova Feruza Boxadirovna and Yaxyoyeva Sarvinoz Xayotjon qizi emphasizes the future prospects of inclusive education in modern systems. The authors

note that the integration of innovative pedagogical tools, including interactive and low-intensity activities, plays a crucial role in improving the effectiveness of inclusive education and ensuring active participation of all learners. They argue that modern inclusive education requires flexible, learner-centered approaches that accommodate individual differences and promote engagement.

## **Methodology**

This study employed a mixed-methods research design to examine the effectiveness of low-energy games in increasing engagement among special needs learners in inclusive classrooms. The research was conducted in two inclusive primary school settings over a period of eight weeks. A total of 30 students participated in the study, including 10 learners with identified special educational needs (such as mild cognitive disabilities, attention difficulties, and physical limitations) and 20 typically developing peers.

Data collection methods included classroom observations, teacher interviews, and student engagement checklists. The intervention consisted of implementing structured low-energy games—such as matching activities, storytelling circles, memory games, and cooperative board games—integrated into daily lessons. These activities were selected based on their minimal physical demand and potential to promote cognitive and social interaction.

Quantitative data were collected using pre- and post-intervention engagement scales measuring attention, participation, and interaction. Qualitative data from teacher feedback and observation notes were analyzed thematically to identify patterns in student behavior and classroom dynamics. The combination of these methods ensured a comprehensive evaluation of the intervention's effectiveness.

## **Results**

The findings of the study indicate a noticeable improvement in the engagement levels of special needs learners following the implementation of low-energy games. Quantitative analysis showed an increase in average engagement scores from 56% in the pre-intervention phase to 78% in the post-intervention phase. Significant improvements were observed in students' attention span, willingness to participate in activities, and interaction with peers.

Qualitative data further supported these results. Teachers reported that students appeared more relaxed, motivated, and confident during lessons that incorporated low-energy games. Learners with attention difficulties demonstrated longer periods of focus, while those with social challenges showed increased participation in group activities.

Additionally, the overall classroom environment improved, with fewer behavioral disruptions and more collaborative interactions among students. These results suggest that low-energy games positively influence both individual engagement and group dynamics in inclusive classrooms.

## **Discussion**

The results of this study align with previous research emphasizing the importance of adaptive and interactive teaching strategies in inclusive education. The observed increase in student engagement supports the idea that low-energy games provide an effective alternative to traditional teaching methods, particularly for learners who may struggle with high-intensity or physically demanding activities.

The findings are consistent with studies on game-based learning, which highlight the role of structured play in enhancing motivation, attention, and social interaction. In this study, low-energy games created a supportive and low-pressure environment that allowed students with special needs to participate more comfortably and confidently.

Furthermore, the improvement in classroom dynamics suggests that such activities not only benefit individual learners but also foster inclusivity by encouraging peer collaboration and mutual understanding. This supports the view that inclusive education requires not only physical integration but also meaningful participation.

However, the study has certain limitations, including a relatively small sample size and short intervention duration. Future research could explore long-term effects and involve a larger and more diverse group of participants.

## **Conclusion**

In conclusion, this study demonstrates that low-energy games are an effective tool for increasing engagement among special needs learners in inclusive education settings. The findings show that such activities can significantly improve attention, participation, and social interaction, while also enhancing overall classroom dynamics.

The integration of low-energy games into teaching practices provides a practical, flexible, and accessible strategy for educators working in inclusive classrooms. These games help create a supportive learning environment that accommodates diverse learner needs and promotes active participation.

It is recommended that teachers incorporate low-energy, game-based activities into their instructional methods and receive appropriate training to implement such strategies effectively. Further research is encouraged to expand on these findings and explore additional innovative approaches to inclusive education.

## **References**

1. Rustamov, A. (2024). *Inclusive education as a system of equal learning opportunities.*
2. Ibragimova, D., & Rasulova, M. (2025). *Procedures for engaging children in inclusive education.*
3. Abduazizova, N., & Ne'matova, Z. (2025). Barriers to student engagement in inclusive education.
4. Azimova, G., et al. (2025). *Modern approaches to special pedagogy in inclusive education.*
5. Rosero, J., & Inga, L. (2025). Transforming inclusive education through gamification and active learning strategies.
6. Shuxratov, B., & Ismoilova, D. (2025). *Innovative pedagogical approaches for students with special educational needs.*
7. Abduraximova, F. B., & Yaxyoyeva, S. X. (2025). Inklyuziv ta'limning zamonaviy ta'limdagi istiqbollari.