



# Integrating Video Games into Physical Education for Students with Special Educational Needs: A Modern Approach to Inclusive Education

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## Abstract

Using video games in physical education for students with special educational needs offers a new way to boost inclusivity and participation. This article looks at the potential benefits, like personalized learning, higher motivation, and the improvement of motor and cognitive skills. It also covers challenges such as accessibility, the need for teacher training, and the risk of sensory overstimulation. While video games can greatly improve PE for SEN students, successful use requires selecting the right games and preparing teachers well. This approach can support the physical and cognitive growth of SEN students in more inclusive environments.

**Keywords:** Special Educational Needs, Video Games in Education, Physical Education, Inclusive Education, Adaptive Learning Technology

## Introduction

The inclusion of students with special educational needs (SEN) in physical education (PE) has traditionally posed challenges due to the diversity of physical and cognitive abilities among students. Recent technological advancements, especially video games, offer creative ways to tackle these challenges. Video games, especially those using motion-sensing, provide new ways to engage SEN students in personalized physical activities. This article explores the benefits and challenges of adding video games to PE programs for SEN students, based on current research and best practices.

## Benefits of Video Games in Physical Education for SEN Students

### Personalized and adaptive learning

One of the significant advantages of video games in PE is the ability to tailor activities to the individual needs of students. Video

games can be programmed to adjust the level of difficulty and type of activities based on a student's abilities. This adaptability is crucial for SEN students, who may require different forms of motivation and engagement compared to their peers. Research by Parhizkar [1] indicates that video games with motion-sensing technology, such as the Nintendo Wii or Xbox Kinect, can be particularly effective in providing an inclusive environment where all students can participate at their own pace.

### Enhanced engagement and motivation

Video games are inherently engaging, offering immediate feedback and rewards that can motivate students to participate in physical activities. This is particularly important for SEN students, who may often feel disengaged or frustrated in traditional PE settings. The interactive nature of video games can make physical activity more enjoyable, leading to increased participation and

effort. A study by Yu et al. [2] found that students with autism spectrum disorder showed increased physical activity levels and improved social interactions when participating in video game-based PE sessions compared to traditional activities.

### Development of motor and cognitive Skills

Video games that involve physical movement can help in the development of both fine and gross motor skills. For SEN students, who may struggle with these skills, video games offer a controlled environment where they can practice and improve. Moreover, certain games are designed to enhance cognitive functions such as problem-solving, attention, and memory. According to Ramírez-Granizo et al. [3], the integration of video games in PE has been shown to improve not only physical abilities but also cognitive and social skills, making them a valuable tool in the education of SEN students.

### Challenges and Considerations

#### Accessibility and inclusivity

While video games offer numerous benefits, there are challenges related to accessibility and inclusivity. Not all SEN students may have the physical ability to use motion-sensing technology or the cognitive capacity to engage with certain types of games. Therefore, it is essential to carefully select games that are accessible to all students, considering their specific needs. Educators must also ensure that video games add to, rather than replace, traditional PE activities. According to Wilson [4], relying too much on technology can reduce the variety of physical activities, which may not fully meet the overall needs of SEN students.

#### Teacher training and resources

The successful integration of video games into PE requires that teachers are adequately trained in both the use of the technology and in strategies to engage SEN students. This includes understanding how to select appropriate games, how to modify activities to suit different abilities, and how to manage a classroom where technology plays a central role. However, current research suggests that many PE teachers feel unprepared to incorporate video games into their curriculum. A study by R uth and Kaspar [5] highlights the need for professional development programs that equip educators with the skills and knowledge necessary to effectively use video games in PE settings.

#### Potential for overstimulation

For some SEN students, particularly those with sensory processing issues, video games can be overstimulating. The bright

lights, loud sounds, and fast-paced action in many video games can lead to sensory overload, which may result in anxiety or behavioral issues. Educators must be mindful of these potential risks and choose games that are designed to be calming or that allow for sensory adjustments. As noted by Winnick and Porretta [6], the key is to find a balance between providing engaging, stimulating activities and ensuring that they are appropriate for the sensory needs of each student.

### Conclusion

The integration of video games into physical education for students with special educational needs presents a promising opportunity to create more inclusive, engaging, and effective learning environments. While there are significant benefits, such as personalized learning, increased engagement, and skill development, educators must also navigate challenges related to accessibility, teacher preparedness, and the risk of overstimulation. By carefully selecting appropriate games and providing adequate teacher training, video games can become a valuable component of PE programs, helping to meet the diverse needs of SEN students and promoting their physical and cognitive development.

### Acknowledgements

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### Conflict of Interest

No conflict of interest.

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