

EDUCATIONAL VIDEO-BASED PLAY METHODS IN PHYSICAL EDUCATION LEARNING: SOCIAL EMOTIONAL OF CHILDREN WITH SPECIAL NEEDS

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ABSTRACT

This study is an experimental approach that utilizes educational video-based play methods to enhance the social-emotional skills of children with special needs through physical education learning. This study employs a single-group pretest-posttest research design. The number of samples in this study was 23 children with special needs. The data collection technique employed a social emotional questionnaire, which consisted of 15 statements provided to parents of students and had a Cronbach's Alpha instrument reliability of 0.952. We used a paired sample t-test for the data analysis technique. The results of the data analysis showed that the Sig. data value was $0.001 < 0.05$. Therefore, we can conclude that the pre-test and post-test data on the social-emotional aspects of children with special needs differ. Furthermore, the mean value of the pre-test social-emotional data was 45.04, while the mean value of the post-test social-emotional data was 52.13, resulting in a mean difference of 7.087. Based on these results, we can conclude that the video-based play learning method in physical education influences the social-emotional aspects of children with special needs. Meanwhile, the results of the N-Gain test show that the effectiveness of the video-based play method in physical education learning to improve the social emotions of children with special needs is in the moderate category.

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1. INTRODUCTION

The term "children with special needs" refers to children who have specific conditions or needs that differ from those of children in general. This condition can manifest as obstacles or challenges in their physical, mental, emotional, social, or behavioral development. These children require special handling, attention, and education to ensure their optimal development. There are several categories of children with special needs, such as children with physical disorders, children with developmental disorders, children with intellectual and cognitive disorders, children with specific learning disorders, and children with emotional and behavioral disorders

(Gerber et al., 2024). Children with special needs often face various challenges in participating in learning. These challenges can come from physical, cognitive, emotional, or social limitations that affect the way they learn and interact in the school environment (Duque et al., 2022). Children with communication disorders such as autism or speech delays can have trouble following verbal instructions and communicating with teachers or friends. These difficulties can prevent them from participating in group activities or class discussions. Children with special needs who have difficulty with social interaction may also feel isolated or reluctant to participate in class activities, especially when they have difficulty understanding social cues or the body language of others (El-Asam et al., 2023).

Some children with special needs have difficulty managing themselves, including in terms of time management, organizing tasks, or maintaining the order of learning tools (Cooper-Kahn & Dietzel, 2024). Children with cognitive disorders or ADHD often need more guidance to organize their schedules or tasks properly. This often results in them falling behind on assignments or not completing homework due to difficulties remembering or understanding instructions, which ultimately impacts their academic achievement.

The solution to overcoming learning problems for children with special needs is through an individual learning approach using an individualized education program (IEP) designed according to the needs and abilities of children with special needs (İlik & Sari, 2017; Dianidah, 2023). Involve occupational therapy, speech therapy, or behavioral therapy to develop their communication skills, focus, and social skills. Children with special needs can easily access materials by using technological aids like large text, audio-visual devices, or learning applications. Teachers need to understand the specific approaches for children with special needs so they can provide appropriate support (Paulsrud & Nilholm, 2023). Creating a friendly and supportive classroom environment with inclusive students reduces stigma and increases the social engagement of children with special needs.

Children with special needs can receive handling and support through inclusive education or special schools (Shutaleva et al., 2023). In inclusive schools, they can learn alongside other children who have the necessary adjustments, or they can attend special schools tailored to their specific needs. Mentoring and Therapy: Various types of therapy, such as speech therapy, occupational therapy, or behavioral therapy, can help these children develop skills that suit their needs. Family Involvement: Families play a significant role in supporting the development of children with special needs (Kelty & Wakabayashi, 2020). We need to educate parents and other family members on how to support children emotionally and educationally.

Overall, the public's view of children with special needs is still diverse. However, with increasing education, awareness campaigns, and the implementation of inclusive policies, many parts of society are starting to be more open and accepting of the existence of children with special needs (Molina Roldán et al., 2021). Increasing awareness and education is the main challenge to reduce negative views and stigma towards children with special needs.

One of the subjects included in the inclusive school curriculum is physical education. Physical education plays an important role in the physical, mental, and social development of children (Opstoel et al., 2020). In the context of children with special needs, physical education is also a strategic means to develop social and emotional skills, which are often a challenge for them (Yarımkaaya & Esentürk, 2022). Children with special needs, such as children with autism spectrum disorders, Down syndrome, or intellectual disabilities, often face difficulties in managing emotions, interacting socially, and building relationships with their surroundings. Therefore, we need appropriate interventions to help them develop these skills. One method that is increasingly popular in the education of children with special needs is the use of video media in learning activities (Cheng & Lai, 2020). Video-based play is an innovative approach that combines elements of entertainment and learning, thereby increasing children's motivation to learn and engagement. Children's abilities and needs can tailor a variety of activities offered by educational video games, simulations, and interactive motion-based applications (Lee-Cultura et al., 2022). Video-based play methods in physical education not only enhance physical skills but also aid in the development of social-emotional abilities in children with special needs.

Research shows that play has a major contribution to children's social and emotional development (Rifa & Suryana, 2022). Through play, children learn to work together, understand the feelings of others, and manage their own emotions. The use of video as a medium for play can create a fun and safe learning environment for children with special needs, allowing them to practice and develop social and emotional skills in a structured context.

Challenges in educating children with special needs include various aspects, especially in terms of developing social and emotional skills (Francisco et al., 2020). Children with conditions such as autism or intellectual disabilities often have difficulty understanding emotional expressions, empathizing with others, or communicating effectively in everyday social interactions. The lack of these skills can hinder their integration into the wider social environment, both at school and outside of school (Satillah et al., 2024). Therefore, physical education is not only a means to improve physical health but also a medium to improve children's social and emotional aspects through interaction and cooperation in structured games.

Video-based play methods in the context of physical education offer various advantages (Möding et al., 2022). Videos and motion-based game applications allow for visual and interactive delivery of material, which is very beneficial for children with special needs who may have difficulty following verbal instructions directly. Through this media, children can learn in a more engaging and in-depth way because interactive videos provide instant feedback and allow them to practice repeatedly in controlled situations. Additionally, teachers can design video-based games to foster social interaction among students (Sablíć et al., 2021; Heemsoth et al., 2022), particularly those that demand collaboration or healthy competition, thereby promoting communication, sharing, and teamwork among children.

The use of educational videos for children with special needs is an effective strategy in supporting the learning process (Mitsea et al., 2022; Kocdar & Bozkurt, 2023). Children with various disabilities can access visual and auditory experiences through educational videos, which also offer flexibility in delivering more intriguing and interactive material. Depending on the type and level of children's special needs, we can adjust the use of videos to meet their individual needs. Visual explanations often assist children with special needs more effectively than text or verbal explanations alone. Educational videos present information visually and auditorily that is easier to understand, especially for children with a visual learning style (Shimojo et al., 2020). In addition, previous research has shown that motion-based video game technology, such as using motion sensors or interactive devices, can provide physical experiences that are similar to real activities (Saba, 2024). This is crucial in physical education because it integrates physical activity with social and emotional learning. Children with special needs can practice their motor skills while learning to regulate emotions, respond to the feelings of others, and increase self-awareness through enjoyable experiences (ALomari et al., 2023). Thus, the video-based play method has outstanding potential to be a holistic approach, combining physical, social, and emotional aspects in the learning process of children with special needs in physical education environments (Gerhard et al., 2024).

The use of educational videos has many benefits for children with special needs, ranging from visualization of materials that are easier to understand to higher engagement through interactive elements and gamification (Gerber et al., 2024). With adaptive technology, this video also allows children with various types of special needs to learn more inclusively. However, to maximize the results, parents, teachers, and therapists must select and adjust educational videos to the child's individual needs.

However, despite this method's enormous potential, further research is still necessary to determine its effectiveness, particularly in the context of children with special needs. To support the development of more inclusive and adaptive educational interventions, it is crucial to gain a deeper understanding of how to implement the video-based play method effectively in physical education learning and how it can enhance children's social and emotional skills (Bassette et al., 2020; Kaimara et al., 2022).

Based on this background, this study aims to explore and examine the effectiveness of the use of the video-based play method in improving the social-emotional abilities of children with special needs in physical education classes. Teachers, therapists, and other stakeholders can use this research as a reference to design more adaptive physical education programs for children with special needs. With the right attention, approach, and support, children with special needs can learn and develop more optimally. An inclusive and adaptive learning environment plays a crucial role in helping them overcome various problems faced in the learning process.

2. METHOD

This study is an experimental endeavor that employs educational video-based play methods to enhance the social-emotional abilities of children with special needs through

physical education learning. The stages in this study consist of 1) conducting an initial measurement (pre-test) of the social-emotional level of children with special needs by providing a research questionnaire to the parents of students. The study also involves the provision of educational videos on group play to students, which they can utilize during their physical education lessons. 2) The provision of the video aims to spark a sense of togetherness in children with special needs so that they open themselves up to mingling with their other friends. We administer this treatment over the course of 8 meetings, or roughly 2 months, under close supervision. 3) Following the treatment, we conduct the final measurement (post-test) of the social-emotional level of children with special needs by distributing a research questionnaire to the parents of students.

The research design used in this study is a one-group pre-test post-test. The study comprises a single research group without a control group. The number of samples in this study was 23 children with special needs. We used the total sampling technique, which included all members of the population as study samples.

The data collection technique used a social emotional questionnaire with Cronbach's Alpha instrument reliability of 0.952, consisting of 15 statements that covered aspects of responsibility for oneself and others as well as the capacity to control emotions.

Meanwhile, the data analysis technique was carried out in several stages, which included: 1) Descriptive Test. The purpose of this test is to present a summary of the research findings. The description in question is the mean value, standard deviation, minimum value, and maximum value of the pre-test and post-test social-emotional data of children with special needs. 2) Normality Test. This test seeks to ascertain the normality of the research data distribution. This test uses a Sig value greater than 0.05 as the reference level of significance. 3) Hypothesis Testing. We used the paired sample t-test to carry out hypothesis testing in this study. This test aims to compare and determine the increase in social-emotional abilities of children with special needs after receiving treatment. 4) Effectiveness Test (N-Gain). Meanwhile, we used the N-Gain test, which uses the categories from Meltzer, as shown in Table 1, to assess how well the video-based play method improved the social-emotional abilities of children with special needs (Hasbi et al., 2019; Aziz et al., 2021).

Table 1. N-Gain Category

N-Gain Score	Category
$g > 0,7$	high
$0,3 \leq g \leq 0,7$	medium
$g < 0,3$	low

3. RESULTS AND DISCUSSION

Results

In this study, descriptive tests are used to give an overview of the research results. Normality tests are used to find out how the research data is distributed. Hypothesis tests with paired sample t-tests are used to find out how treatment affects the social emotions of children with special needs. Finally, the N-Gain test is used to see how effective the

educational video-based play method is at improving the social emotions of children with special needs through physical education learning.

Descriptive Test

Table 2. Descriptive analysis results

Data	Mean	Median	Std. Deviasi	Min.	Max.
Pre-Test Social Emotional	45,04	45	2,36	41	49
Post-Test Social Emotional	52,13	52	2,34	48	56

Table 2 presents the results of the descriptive test on pre-test and post-test data for children with special needs.

1) The results of the descriptive test of pre-test social-emotional data for children with special needs show a mean value of 45.04, a median value of 45, a standard deviation value of 2.36, a minimum value of 41, and a maximum value of 49.

2) The results of the descriptive test of post-test social-emotional data for children with special needs show a mean value of 52.13, a median value of 52, a standard deviation value of 2.34, a minimum value of 49, and a maximum value of 56.

Normality Test

Table 3. Normality Test Results

Data	N	Mean	Mean Difference	Sig.
Pre-Test Social Emotional	23	45,04	7,087	0,001
Post-Test Social Emotional	23	52,13		

Table 3 presents the results of the normality test, revealing a Sig. value of 0.514 for the pre-test social emotional data and a Sig. value of 0.557 for the post-test social emotional data. We can conclude that the pre-test and post-test social-emotional data of children with special needs follow a normal distribution because each data point has a Sig. value > 0.05 .

Hypothesis Testing

Table 4. Hypothesis Testing Results

Data	N	Mean	Mean Difference	Sig.
Pre-Test Social Emotional	23	45,04	7,087	0,001
Post-Test Social Emotional	23	52,13		

The results of the hypothesis test with the paired sample t-test showed that the Sig. data value was $0.001 < 0.05$, as presented in Table 4. Therefore, we can conclude that the pre-test and post-test data on the social emotions of children with special needs differ. Furthermore, the mean value of the pre-test social emotional data was 45.04; the mean value of the post-test social emotional data was 52.13, so the mean difference was 7.087. These results suggest that the video-based play learning method in physical education has an impact on the social emotions of children with special needs.

*Effectiveness Test***Table 5.** Effectiveness Test Results

	Mean	Median	Min.	Max.
N-Gain Score	0,49	0,47	0,37	0,64

Table 5 presents the results of the N-Gain test on the social-emotional development of children with special needs, with a mean value of 0.49, a median value of 0.47, a minimum value of 0.37, and a maximum value of 0.64. Based on the mean value of 0.49, the effectiveness of the video-based play learning method in physical education to enhance the social-emotional development of children with special needs falls into the moderate category.

Discussion

The statistical analysis revealed a significant data value of 0.001, which is less than the threshold of 0.05. This leads us to believe that there is a difference between the social-emotional data collected from children with special needs before and after the intervention. In addition, there was a mean difference of 7.087 points between the pre- and post-test social-emotional data, with the former being valued at 45.04 and the latter 52.13. These findings suggest that children with special needs benefit socially and emotionally from physical education classes that use video-based play learning.

Participation in learning can be difficult for children with special needs for a variety of reasons. These obstacles, which may stem from physical, cognitive, emotional, or social limits, can hinder their learning and social interactions in school (Vlachou et al., 2016). Following spoken directions and interacting socially can be challenging for children with communication difficulties like autism or speech impairments. Because of these challenges, they may not participate in class discussions or group projects. Some kids with special needs struggle with self-management, whether it's keeping track of time, arranging their work, or keeping their study materials in the correct sequence (Sipila-Thomas et al., 2020). Because they have trouble remembering or following the directions, they frequently fall behind on their assignments or don't finish their homework, which has a negative effect on their academic progress.

Children with exceptional needs can receive the necessary attention and assistance through exceptional schools or inclusive education programs. They can attend specialised schools or mainstream schools with peers who also have these accommodations. Support and Counseling: Children with special needs might benefit from a variety of therapeutic approaches, including speech, occupational, and behavioral treatment, in order to acquire age-appropriate abilities (Seoane-Martín & Rodríguez-Martínez, 2023). Engaging the Family: For children with exceptional needs, family support is crucial to their growth and development. In order to help children succeed academically and emotionally, we must teach parents and other family members how to do it.

Physical education significantly contributes to the physical, mental, and social development of children. For children with exceptional needs, physical education serves

as a strategic avenue for cultivating social and emotional skills, which frequently pose challenges for them (Lieberman et al., 2024). Children with exceptional needs, including those with autism spectrum disorders, Down syndrome, or intellectual disabilities, frequently have challenges in emotional regulation, social interaction, and connection development with their environment. Consequently, we require suitable treatments to facilitate the development of these talents. A growing strategy in the teaching of children with special needs is the incorporation of audiovisual media in learning activities (Fernández-Batanero et al., 2022). Video-based play is a novel methodology that integrates pleasure with education, thereby enhancing children's motivation and participation in learning. The capabilities and requirements of children can customize a range of activities provided by instructional video games, simulations, and interactive motion-based applications. Video-based play techniques in physical education promote physical skills and facilitate the development of social-emotional competencies in children with special needs (Bellini et al., 2007).

Enhancing the social and emotional competencies of children with special needs is a primary problem in the realm of inclusive education (Mitchell & Sutherland, 2020). In this perspective, physical education is significant as it integrates physical activity with social and emotional learning. Video-based educational play methods in physical education possess significant potential to facilitate the development of social and emotional skills in children, particularly through interactive and visual strategies that are more accessible to those with special needs.

Utilizing video-based play techniques, children with special needs can participate in simulated scenarios that facilitate the development of social skills within a structured and secure setting (Basri et al., 2024). Educational movies emphasizing interactive physical play enable youngsters to recognize and respond to emotions, practice turn-taking, and develop collaboration skills with peers. These skills are crucial for social development, as children with special needs frequently struggle to comprehend social dynamics in real-world contexts. This strategy offers advantages not just for children but also for teachers and educators. Educators can consistently utilize instructional video-based games as a pedagogical instrument without necessitating much direct intervention. Educators can monitor students' development and offer supplementary support as necessary while students engage in autonomous learning through play (Skene et al., 2022). This alleviates the demands of direct instruction, enabling educators to concentrate more on individualized treatments and the emotional support required by children with exceptional needs.

While video-based play methods have the potential to significantly enhance the learning and development of children with special needs, it is important to consider certain disadvantages (Barman & Jena, 2023). The challenges that may arise include a lack of physical activity, potential dependence on technology, limitations in social interaction, and the danger of excessive screen time. Consequently, it is crucial to consistently supervise, select appropriate content, and balance this approach with other more interactive and direct learning methods in order to optimize the development of children with special needs.

In general, the educational video-based play method in physical education offers a fantastic opportunity for children with special needs to develop in social and emotional aspects. Interactive visual media enables children to acquire knowledge in a manner that is more engaging, efficient, and customized to their unique requirements (Hayes et al., 2010). In a supportive environment, they can enhance their social skills, regulate their emotions, and actively engage in pleasurable physical activities, all of which have a beneficial effect on their social integration and overall well-being. Preliminary results suggest that this approach has substantial potential for integration into the physical education curriculum for children with special needs, although additional research is necessary to further investigate its long-term effects.

4. CONCLUSION

The application of video-based play methods in physical education can enhance the social-emotional abilities of children with special needs, according to the research and data analysis results. The effectiveness of video-based play methods in physical education learning to improve the social-emotional abilities of children with special needs is in the moderate category. The results of the data analysis showed that the Sig. data value was $0.001 < 0.05$. Furthermore, the mean value of the pre-test social-emotional data was 45.04, while the mean value of the post-test social-emotional data was 52.13, resulting in a mean difference of 7.087. The N-Gain test yielded a mean value of 0.49, a median value of 0.47, a minimum value of 0.37, and a maximum value of 0.64 for the social-emotional development of children with special needs. The average score is 0.49. Overall, the educational video-based play method in physical education provides excellent opportunities for children with special needs to develop in social and emotional aspects. The use of interactive visual media allows children to learn in a more interesting, effective, and tailored way to their individual needs.

Further research is needed to explore the long-term impact of this approach in more depth, but preliminary results suggest that this method has great potential to be integrated into the physical education curriculum for children with special needs. Although the video-based play method offers a lot of potential in supporting the learning and development of children with special needs, there are several weaknesses that need to be considered. Some challenges may include limitations in social interaction, potential dependence on technology, a lack of physical activity, and the risk of excessive screen time. Therefore, it is important to always supervise, choose the right content, and balance this method with other, more direct and interactive learning approaches to optimize the development of ABK.

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