




Measuring Level of Motoric Ability Utilizing Bocce Ball for Children with Mild Mentally Disabled

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Abstract

Adaptive physical education is designed for children with disabilities. The school system, learning strategies, and the overall school environment need to be prepared to overcome the challenges faced by children with disabilities. The main obstacle in learning adaptive physical education is the low enthusiasm of children during the learning process. This research used a quantitative descriptive approach. The primary variable is the ability of children with mild mental disabilities to throw the ball at the bocce game. The research subject is 26 mentally disabled students, consisting of 16 males and 10 females. Data analysis techniques using descriptive statistical techniques using percentages. The study's results reveal that Post-intervention results indicate a notable improvement in gross motor skills. The intervention significantly enhanced the gross motor skills of male students, with 81.25% achieving "Good" or "Excellent" scores in the final assessment, compared to their initial scores, which were predominantly in the "Less" category. In comparison, the gross motor skills of female students, with 70% achieving "Good" scores, compared to the initial scores predominantly in the "Less" category.

Keywords: Mild Impairment, Bocce Game, Ball-Throwing Ability, Mentally Disabled

INTRODUCTION

Education is based on specific ideas as a deliberate action to develop individuals and society. In other words, humanizing people through education is based on the philosophy of life and the sociocultural background and psychological thinking of each society (Bone Dominifridus, 2023). In Indonesia, education is divided into three pathways: formal, non-formal, and informal. Types of education include general, vocational, academic, professional, vocational, religious, and special education.

Special education is intended for students with difficulties in the learning process due to physical, emotional, mental, intellectual, or social disorders or with the potential for extraordinary intelligence and talent (Darlis, 2017). Children with physical, mental, and behavioral disorders generally receive education at a special school (SLB), a specific

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school for school-age children with special needs (Nasution et al., 2022). SLB serves children with special needs (ABK) from preschool, elementary, and high school levels. A special school at the Preschool level (TKLB) is a playground or learning group for children with disabilities under six years old, usually consisting of blind and deaf children. S

pecial School at the Elementary School (SDLB) is a primary school for children with disabilities aged 6 to 12 years, which includes children with visual impairment, deafness, disability, and autism (Rachmawati & Ermawati, 2019).

Martinus & Kesumawati (2020) state that children at the SDLB level, such as children with disabilities, have equal rights to get a proper education, following the mandate of The 1945 Constitution of the Republic of Indonesia, Article 31 paragraph 1, which states that "Every citizen has the right to get a proper education." Further explanation is found in Law No. 20 of 2003 on the National Education System, closely related to education for children with special needs. The National Education System Law provides a solid legal framework for inclusive education in Indonesia, which extends to adaptive physical education for children with special needs. This law emphasizes the importance of equitable access to quality education for all children, regardless of their circumstances. Adaptive physical education plays a crucial role in fostering the physical, social, and emotional development of children with special needs, enabling them to participate in sports and physical activities actively. Furthermore, this law encourages the development of curricula responsive to individual needs, forming the basis for implementing appropriate physical education programs for children with multifarious conditions.

El-hady et al. (2018) noted that adaptive physical education serves as a tool to ensure that children with special needs can participate in physical activities like other children. In line with the definition of adaptive physical education, it includes a form of education through physical activity specially adapted for children with disabilities (Kresnapati, 2022). This program can be provided in various classes, from regular classes (general physical education) to special classes intended exclusively for children with special or unique needs. Adaptive physical education is a tool, especially in physical education, that allows children with special needs to continue participating in physical activities like other children (Aini et al., 2024). Children with disabilities have equal rights in terms of growth and development. Therefore, teachers face challenges in providing an appropriate education for children who experience learning difficulties due to limitations. In

contrast, Taufan et al. (2018) argue that the focus of physical education in schools on the impact of physical development on the growth and development of other aspects of the human person makes it unique. No other field compares to physical education in terms of its influence on the overall development of a human being. Physical education can also promote the development of mental and moral aspects.

Children with special needs encompass a diverse range of conditions, each presenting unique challenges in physical education. For instance, children with autism spectrum disorder may struggle with social interactions and communication, which can make team sports and collaborative activities particularly difficult for them. Those with intellectual disabilities might face challenges in understanding complex rules and instructions, hindering their ability to participate fully in sports.

Children with physical disabilities may encounter barriers related to mobility, making traditional activities like running or jumping more challenging. Visual or hearing impairments can also affect a child's ability to engage in sports, as they may not receive important visual or auditory cues. Each of these conditions requires tailored approaches in physical education to accommodate their specific needs, ensuring that all children can participate and thrive in sports activities.

This study examines the measurement of motor skills in mentally disabled children using Bocce Ball media. Mentally disabled is a term that refers to children who encounter delays in intellectual development (Tarigan, 2019). Mentally disabled is a term used to refer to children with below-average intellectual abilities (Nisa et al., 2021). Other terms for mentally disabled include children who experience disabilities or decreased abilities, as well as reduced abilities in aspects of strength, value, quality, and quantity. It should be noted that individual differences in children with intellectual disability vary widely, and there are different ways of classifying them, depending on the point of view.

The mentally disabled have several stages. It is classified by their IQ level and divided into three categories: mild mentally disabled, moderate mentally disabled, and severe mentally disabled. According to (Mahmudah, 2016), the mentally disabled can be divided into three stages: mild (their IQ intelligence level ranges from 50-70), moderate (their IQ level ranges from 30-50), severe, and highly severe (IQ intelligence level less than 30) (Wiyatini, Fatmasari, & Shobirun, 2021). Based on the type of disability, those who are included as mild mentally disabled tend to find it easier to understand the material than

those in moderate and severely mentally disabled. (Wu et al., 2021). sports learning efforts for mentally disabled children are carried out by presenting innovations and appropriate learning media, such as bocce ball.

Bocce ball is an excellent sport for children with intellectual disabilities, emphasizing skill development over physical strength. The game involves rolling balls towards a target, which can be adapted to accommodate varying ability levels, allowing every child to participate meaningfully. Children can improve their hand-eye coordination, spatial awareness, and social skills through bocce ball while enjoying a fun and engaging activity with their peers.

Bocce is an effective tool for immediate rehabilitation, significantly restoring movement ability. The benefits of this game for children with Down syndrome include improving spinal flexibility (Stepanyuk et al., 023). In addition, bocce also helps develop children's motor skills, understanding of space, and accuracy of motor reactions (Triana, 2018). Two teams play the Bocce game on one field, where players try to throw or roll the bocce ball to get close to the Pallina ball. This sport has been around for more than 7000 years and has become popular as an international sport, both for competition and recreation. One of the advantages of bocce in Special Olympics is that anyone can easily participate in the game anywhere. As well as what was conveyed (Firdaus et al., 2023), bocce is a sport played by throwing a large ball toward the target, the Ballina ball. The score is determined based on how close the big ball is to the Ballina ball. Bocce practice actively contributes to players' physical development and body condition, affecting their mood and national consciousness. Regular practice in this sport helps to improve agility, reaction, endurance, coordination of movements, and vision ability. (Erol et al., 2024).

This research aims to assess and enhance the motor skills of children with mild intellectual disabilities, who often experience challenges in physical development. By focusing on bocce ball, a sport that can be easily adapted to various skill levels, the study aims to provide a structured method for evaluating motor abilities in a fun and engaging environment. This research seeks to identify specific areas for improvement in motor skills. It highlights the potential of inclusive sports to foster social interaction and build confidence among children with special needs.

METHOD

This study uses a quantitative descriptive approach to describe the motoric level of disabled children in the mild category. The locus of research is in the Wiradesa State Special School, Pekalongan Regency. The research respondents are 26 students consisting of 16 males and 10 females. Data analysis is carried out using quantitative or statistical methods. A descriptive research design is used to explain the data that has been collected. The data collection technique was carried out using a test developed by David Page, while data analysis was carried out using descriptive statistical techniques with percentages (Shannon-Baker et al., 2018).

The primary variable is the ability of disabled children to throw the ball at the Bocce game in the mild category. The data analysis technique uses descriptive statistical techniques using percentages, which means that the observation data that has been collected is then analyzed based on the percentage. (Donald Ary, Lucy Cheser Jacobs, 2018).

RESULT

This study aims to determine the extent of improvement in the ability to throw balls in bocce games for mildly disabled children in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency. The study lasted one month and involved 26 students, consisting of 16 male and 10 female students. The improvement of gross motor skills was measured twice, namely before and after being given a bocce game. The data obtained aims to answer the research problem. The study results were processed using quantitative descriptive analysis and presented in tabular form.

1. Gross motor skills before being given a bocce game to mildly disabled students of Physical Education Material (SLB) Sekolah Luar Biasa Negeri Wiradesa Kabupaten Pekalongan.

The gross motor development in mildly impaired students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, and through bocce games can be seen from the initial ability test results. Data on the gross motor abilities of mildly disabled students at SLB Negeri Wiradesa are presented in Table 1, illustrating the initial test results.

Table 1. Initial Test Scores of Basic Skills Test Results on Male Students with Mild Tunagrahita Before the Application of Bocce Games

No.	Student Code	Initial Score Test	No.	Student Code	Initial Score Test
1	R-RW	1	9	R-ZP	1
2	R-RA	2	10	R-F	1
3	R-RH	2	11	R-BS	1
4	R-MDM	1	12	R-RSA	2
5	R-MIS	1	13	R-DA	1
6	R-MSR	1	14	R-DFS	1
7	R-MYN	2	15	R-APP	2
8	R-MZ	1	16	R-AFR	1

Source. Initial Observation. 2024

Based on the table above, there are 16 male students who, on average, get a score of 1 as many as 11 students and who get a score of 2 as many as 5 students. From the test results, the number of scores obtained is obtained, and then the scores obtained are converted to a standard score of 100 using the formula previously set in Chapter III. If determined, the results can be seen in the following calculations.

Based on the results of the calculation of the score of the results of gross motor movements obtained by students with mild disabilities in the Physical Education Material (SLB) of Wiradesa State Special School, Pekalongan Regency, the scores of 16 students with mild disabilities in Wiradesa State Special School, Pekalongan Regency are outlined in table 2 below:

Table 2. Categorization of Gross Motor Ability Test Results for Male Students Mild mentally disabled Physical Education Material

No.	Student Code	Value	Category	No.	Student Code	Value	Category
1	R-RW	10	Not Able	9	R-ZP	10	Not Able
2	R-RA	20	Less Capable	10	R-F	10	Not Able
3	R-RH	20	Less Capable	11	R-BS	10	Not Able
4	R-MDM	10	Not Able	12	R-RSA	20	Less Capable
5	R-MIS	10	Not Able	13	R-DA	10	Not Able
6	R-MSR	10	Not Able	14	R-DFS	10	Not Able
7	R-MYN	20	Less Capable	15	R-APP	20	Less Capable
8	R-MZ	10	Not Able	16	R-AFR	10	Not Able

Source. Initial Observation. 2024

Based on the analysis presented in the table above, data were obtained regarding the gross motor abilities of mildly disabled male students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, before applying bocce games. A total of 11 students scored 10 in the category "Unable," and 5 students scored 20 in the category "Less Able." Looking at the results of the basic gross motor scores of the 16 male students, most students are still in the "Unable" category.

Table 3. Initial Test Scores of Basic Skills Test Results on Female Students with Mild Tunagrahita Before the Application of Bocce Games

No.	Student Code	Initial Score Test	No.	Student Code	Initial Score Test
1	R-IS	1	6	R-ZP	2
2	R-MDA	1	7	R-F	1
3	R-NZA	1	8	R-BS	1
4	R-PJ	2	9	R-RSA	1
5	R-RA	1	10	R-DA	1

Source. Initial Observation. 2024

Based on the table above, there are 10 female students who, on average, get a score of 1 as many as 8 students and 2 as many as 2 female students. From the test results, the number of scores obtained is obtained, and then the scores obtained are converted to a standard score of 100 using the formula previously set in CHAPTER III. If determined, the results can be seen in the following calculations:

$$\text{Value (student N)} \times 100 = \text{Score obtained} / \text{maximum score} \times 100$$

Based on the results of the calculation of the scores of the results of gross motor movements obtained by students with mild disabilities in the Physical Education Material (SLB) of Wiradesa State Special School, Pekalongan Regency, the scores of 10 students with mild disabilities in Wiradesa State Special School, Pekalongan Regency are outlined in table 4 below:

Table 4. Categorization of Test Results of Gross Motor Skills on Female Students with Mild Tunagrahita Physical Education Material Before the Application of Bocce Game

No.	Student Code	Value	Category	No.	Student Code	Value	Category
1	R-IS	10	Not Able	6	R-ZP	20	Not Able
2	R-MDA	10	Less Capable	7	R-F	10	Not Able

3	R-NZA	20	Less Capable	8	R-BS	10	Not Able
4	R-PJ	10	Not Able	9	R-RSA	10	Less Capable
5	R-RA	10	Not Able	10	R-DA	10	Not Able

Source. Initial Observation.2024

Based on the analysis shown in the table above, data were obtained regarding the gross motor abilities of mildly disabled female students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, before applying bocce games. A total of 8 female students scored 10 in the category "Unable," and 2 students scored 20 in the category "Less Able." From the results of the gross motor ability scores of the 10 female students, most students are still in the "Unable" category.

2. Results of Gross Motor Skills after implementing Bocce Game for Students with Mild Disabilities Physical Education Materials (SLB) Sekolah Luar Biasa Negeri Wiradesa Kabupaten Pekalongan.

The description of the results of gross motor skills after the application of bocce games on mildly disabled students of Physical Education Material (SLB) Wiradesa State Special School, Pekalongan Regency, can be seen through the final test. The data on the results of gross motor skills in mildly disabled students of Physical Education Material (SLB) Wiradesa State Special School, Pekalongan Regency, after the application of bocce games as follows:

Table 5. Final Test Score of Gross Motor Ability Results on Male Students with Mild Tunagrta Physical Education Material After the Implementation of Bocce Game

No.	Student Code	Initial Score Test	No.	Student Code	Initial Score Test
1	R-RW	3	9	R-ZP	3
2	R-RA	4	10	R-F	3
3	R-RH	3	11	R-BS	2
4	R-MDM	3	12	R-RSA	4
5	R-MIS	3	13	R-DA	2
6	R-MSR	4	14	R-DFS	3
7	R-MYN	4	15	R-APP	4
8	R-MZ	4	16	R-AFR	4

Source. Research Data. 2024

Based on the table above, there are 16 male students whose average improvement varies. For those who get an increase in score of 2, as many as 2 students and those who get a score of 3, as many as 7 students, and those who get a score of 4 for

as many as 7 students. From the test results, the scores obtained are obtained, and then the scores obtained are converted to a standard score of 100 using a predetermined formula. If determined, the results can be seen in the following calculations:

Based on the results of the calculation of the gross motor movement scores obtained by mildly disabled students in the Physical Education Material (SLB) of Wiradesa State Special School, Pekalongan Regency, the scores of 16 mildly disabled students in Wiradesa State Special School are outlined in table 6 below:

Table 6. Categorization of Test Results of Gross Motor Skills on Male Students with Mild Tunagrahita Physical Education Material After Implementing Bocce Games.

No	Student Code	Value	Category	No	Student Code	Value	Category
1	R-RW	30	Capable Enough	9	R-ZP	30	Capable Enough
2	R-RA	40	Able	10	R-F	30	Capable Enough
3	R-RH	30	Capable Enough	11	R-BS	20	Not Able
4	R-MDM	30	Capable Enough	12	R-RSA	40	Less Capable
5	R-MIS	30	Capable Enough	13	R-DA	20	Not Able
6	R-MSR	40	Able	14	R-DFS	30	Capable Enough
7	R-MYN	40	Able	15	R-APP	40	Able
8	R-MZ	40	Able	16	R-AFR	40	Able

Source. Research Data. 2024

Based on the results of the analysis as presented in the table above, the value of the results of gross motor skills in students with mild impairment in the Physical Education Material (SLB) of Wiradesa State Special School, Pekalongan Regency after the application of bocce games, namely students who obtained different value increases, starting from the value (20) category "less able" as many as 2 students. For the value (30) category "quite capable," as many as 7 students were needed. Meanwhile, with a value of (40) the category "capable" has as many as 7 students. Observing the value of the results of the basic gross motor skills obtained by 16 male students, most students are still in the "Quite capable and Able" category. However, 2 students have improved by getting a score of (20) as many as 2 male students.

Table 7. Final Test Score of Gross Motor Ability Results on Female Students with Mild Tunagrita Physical Education Material After the Application of Bocce Game

No.	Student Code	Initial Score Test	No.	Student Code	Initial Score Test
1	R-IS	3	6	R-ZP	4
2	R-MDA	3	7	R-F	3
3	R-NZA	2	8	R-BS	3
4	R-PJ	3	9	R-RSA	3
5	R-RA	3	10	R-DA	2

Source. 2024 Research Data

Based on the table above, there are 10 female students with varying score improvements. Two students experienced an increase in score of 2, 7 students obtained an increase in score of 3, and 1 student experienced an increase in score of 4. The test results were then converted into a standard score of 100. Based on the calculation of gross motor ability scores obtained by mildly disabled students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, the scores of 10 mildly disabled female students are outlined in Table 8 below.

Table 8. Categorization of Test Results of Gross Motor Skills on Female Students with Mild Tunagrahita Physical Education Material After the Application of Bocce Game

No	Student Code	Value	Category	No.	Student Code	Value	Category
1	R-IS	30	Capable Enough	6	R-ZP	40	Able
2	R-MDA	30	Capable Enough	7	R-F	30	Capable Enough
3	R-NZA	20	Less Capable	8	R-BS	30	Capable Enough
4	R-PJ	30	Capable Enough	9	R-RSA	30	Capable Enough
5	R-RA	30	Capable Enough	10	R-DA	20	Not Able

Source. Research Data. 2024

Based on the analysis in the table above, data were obtained regarding the gross motor abilities of female students with mild impairment in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, after applying bocce games. Two female students scored 20 in the "Unable" category, while 7 female students scored 30 in the "Quite Able" category. In addition, 1 female student scored 40 in the "Able" category. From these results, most female students are in the "Moderately Able" category when applying to bocce games.

Table 9. Categorization of Test Results of Gross Motor Skills on Female Students with Mild Tunagrahita Physical Education Material After Implementing Bocce Games.

No	Student Code	Value	Category	No	Student Code	Value	Category
1	R-IS	30	Capable Enough	6	R-ZP	40	Able
2	R-MDA	30	Capable Enough	7	R-F	30	Capable Enough
3	R-NZA	20	Less Capable	8	R-BS	30	Capable Enough
4	R-PJ	30	Capable Enough	9	R-RSA	30	Capable Enough
5	R-RA	30	Capable Enough	10	R-DA	20	Not Able

Source. Research Data. 2024

Based on the analysis in the table above, data were obtained regarding the gross motor abilities of female students with mild impairment in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency, after applying bocce games. Two female students scored 20 in the "Unable" category, while 7 female students scored 30 in the "Quite Able" category. In addition, 1 female student scored 40 in the "Able" category. From these results, most female students are in the "Moderately Able" category when applying to bocce games.

Table 10: Comparison of the Results of Gross Motor Skills of Male Students with Mild Tunagrahita Physical Education Materials before and after the Implementation of Bocce Game.

No	Student Code	Initial Score Test	Category	Final Score Test	Category
1	R-RW	10	Less	30	Good
2	R-RA	20	Less	40	Excellent
3	R-RH	20	Less	30	Good
4	R-MDM	10	Less	30	Good
5	R-MIS	10	Less	30	Good
6	R-MSR	10	Less	40	Excellent
7	R-MYN	20	Less	40	Excellent
8	R-MZ	10	Less	40	Excellent
9	R-ZP	10	Less	30	Good
10	R-F	10	Less	30	Good
11	R-BS	10	Less	20	less
12	R-RSA	20	Less	40	Excellent
13	R-DA	10	Less	20	Less
14	R-DFS	10	Less	30	Good
15	R-APP	20	Less	40	Excellent
16	R-AFR	10	Less	40	Excellent

Source. Data Analysis. 2024

Based on the data in Table 10, it can be explained that, in general, and individually, the gross motor skills of male students with disabilities have increased positively. This improvement can be seen in the test results before and after applying bocce games in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency. Of the 16 students, 7 students who previously had an average score of 10 increased to 30 with the "Good" category. Meanwhile, 7 other students experienced an increase with an average score of 40, which is included in the "Excellent" category. Meanwhile, 2 students improved with a score of 20, which is in the "Poor" category.

Table 11: Comparison of the Results of Gross Motor Skills of Female Students with Mild Disabilities of Physical Education Material before and after implementing Bocce Game.

No.	Student Code	Initial Score Test	Category	Final Score Test	Category
1	R-IS	10	Less	30	Good
2	R-MDA	10	Less	30	Good
3	R-NZA	20	Less	20	Less
4	R-PJ	10	Less	30	Good
5	R-RA	10	Less	30	Good
6	R-ZP	20	Less	40	Excellent
7	R-F	10	Less	30	Good
8	R-BS	20	Less	30	Good
9	R-RSA	10	Less	30	Good
10	R-DA	10	Less	20	Less

Source. Data Analysis. 2024

Based on the data in Table 11, it can be explained that, in general, and individually, the gross motor skills of female students with disabilities have increased significantly. This improvement can be seen in the initial test results and tests after applying bocce games in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency. Of the 10 female students, 7 improved with an average score of 30 and were included in the "Good" category. One student obtained an average score of 40, which falls into the "Excellent" category. Meanwhile, 2 other students improved with a score of 20, which is still in the "Less" category.

Table 12: The level of motor skills of children with mild impairment at a special school for physical education materials after implementing the bocce game.

No.	Interval	Category	Frequency	Percentage
1	$X \leq 14,61$	Very High	0	0%
2	14,61 - 21,00	High	8	34%

3	21,00 - 27,39	Simply	14	47%
4	27,39 - 33,78	Low	4	19%
5	X >33,78	Very Low	0	0%
Total			26	100%

Source. Data Analysis. 2024

Based on the table and diagram above, it can be seen that the level of motor skills of mildly disabled children at Sekolah Luar Biasa Negeri Wiradesa, Pekalongan Regency, in Physical Education subjects after the application of bocce games is as follows: 0% (0 students) are in the very high category, 34% (8 students) are in the high category, 47% (14 students) are in the moderate category, 19% (4 students) are in the low category, and 0% (0 students) are in the very low category.

DISCUSSION

The results from the various tables present a comprehensive view of the impact of targeted interventions on the gross motor skills of students, both male and female, as well as those with mild mental disabilities. The data indicates a significant enhancement in motor skills following the implementation of structured activities, such as the Bocce game. It aligns with the principles of motor learning theory, which posits that skill acquisition is greatly influenced by practice and feedback. The structured nature of the interventions likely provided the necessary environment for students to engage in repeated practice, leading to observable improvements in their motor skills (Wu et al., 2021).

In Table 9, the improvement in gross motor skills among male students is particularly noteworthy, with 81.25% achieving scores classified as "Good" or "Excellent" after the intervention. This dramatic shift from lower initial scores highlights the effectiveness of focused physical activities in enhancing motor proficiency. According to the constraints-led approach in motor learning, the environment and task constraints can significantly influence a learner's performance. The targeted activities likely created optimal conditions for skill development, allowing students to explore and refine their motor abilities in a supportive context (El-hady et al., 2018).

Similarly, Table 10 reveals that female students also experienced substantial gains in their gross motor skills, with 70% of participants achieving scores of 30 or above in the final assessment. The intervention appears to have successfully addressed the initial limitations in motor proficiency, as evidenced by the transition from the "Less" category to

higher classifications. This improvement can be interpreted through self-determination theory, which emphasizes the importance of intrinsic motivation in learning. By engaging in enjoyable and structured activities, students may have developed a greater sense of competence and autonomy, further facilitating their skill development (Erol et al., 2024).

Table 12, which examines the motor skills levels of students with mild mental disabilities, supports the findings from the previous tables. The distribution of scores indicates that 81% of the participants fall within the "High" and "Intermediate" categories, reflecting moderate to high levels of motor skills improvement. Using the Bocce game aligns with the principles of inclusive pedagogy, which advocates for activities catering to diverse learning needs. This approach fosters skill acquisition and promotes social interaction and emotional well-being among students, contributing to a holistic development framework (Mahmudah, 2016).

The consistent positive outcomes across the tables underscore the importance of structured interventions in enhancing motor skills among various student populations. The findings resonate with established theories in motor learning and pedagogy, highlighting the critical role of practice, motivation, and context in skill acquisition (Stepanyuk et al., 2023). By integrating enjoyable and engaging activities into physical education, educators can create an effective learning environment that supports the diverse needs of all students, leading to significant improvements in their motor skills and overall physical development (Kresnapati, 2022).

Each person has different movement abilities, depending on their strength and physical features. In general, physical development is following the growth phase. However, physical development in some children with disabilities is hampered and results in problems in their subsequent movement skills." Bocce game is a game that can train hand motor skills and sharpen concentration and cooperation between one another (Firdaus et al., 2023). This bocce sports game suits children with special needs who need hand motor training, concentration, and socialization. In Indonesia, this bocce game is intended for children with disabilities.

Stepanyuk, Garanenko, et al. (2023) stated that mild mentally disabled children are individuals with below-average intellectual abilities and impaired behavioral adaptation during development. However, they can still learn daily skills, such as self-care and basic academic skills, to achieve social responsibility, including adapting to physical activities.

Given the important role of gross motor skills, every child must be proficient in self-care skills. Therefore, gross motor development must be managed seriously and continuously. Improvements can be made by teachers and schools, both in the learning process and evaluation, by using various media and methods, one of which is sports, especially bocce games. This learning aims to help students with moderate disabilities achieve the desired learning outcomes.

Researchers used bocce games, which proved effective and attracted students' interest in learning to motivate them to learn and practice. Based on the results of the initial and final tests, it can be seen that there is an increase in gross motor skills in moderate disability students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency. In line with the research of Abdillah et al. (2023), which reveals that children who have special needs or are included in mildly impaired children have better abilities than children at the level of moderate and severe impairment who already have to be extra in their approach and even exceed the maximum limit of children in learning who are challenging to accept the material they learn. This statement aligns with the results of the increase in the scores of 16 male and 10 female students in the final test compared to the initial test, which showed an increase but was not too high. From this data, it can be concluded that bocce games can improve the gross motor skills of mildly disabled students in Physical Education subjects at SLB Negeri Wiradesa, Pekalongan Regency.

CONCLUSION

The research results indicate a significant positive impact of targeted interventions on the gross motor skills of male and female students with mild mental disabilities. The consistent improvements in motor skill assessments suggest that structured physical activities, such as the Bocce game, effectively foster skill acquisition and enhance overall physical proficiency. This transformation from lower initial scores to higher categorizations underscores the importance of providing engaging and contextually relevant learning experiences that cater to the distinctive needs of each student.

The findings reinforce theoretical frameworks in motor learning and inclusive pedagogy, highlighting the critical roles of practice, motivation, and supportive environments in skill development. By implementing interventions that are both enjoyable and educational, educators can not only enhance motor skills but also promote social interaction and emotional well-being among students. These outcomes collectively

illustrate the effectiveness of targeted physical education programs in fostering holistic development, ultimately contributing to improved physical capabilities and greater confidence among students in their motor skills.

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