

DEVELOPMENT OF A TRADITIONAL GAME MODEL TO IMPROVE THE QUALITY OF LIFE OF STUDENTS WITH SPECIAL NEEDS IN SPECIAL SCHOOLS

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ABSTRACT

This study aims to develop a traditional game model adapted to the characteristics of students with special needs to improve their quality of life in Special Needs Schools. The research method used is Research and Development by adapting the Borg & Gall model that has been modified simply. The research subjects involved students from various levels of education in special needs schools. Research data was obtained through observation, interviews, questionnaires, as well as limited and extensive trials of the developed traditional game models. Data analysis was carried out descriptively qualitatively and quantitatively to assess aspects of feasibility, implementation, and the impact of the game on students' quality of life. The results of expert validation of the four game models showed a maximum achievement of 100%. This confirms that the four game models are considered very suitable for application to students with special needs. Meanwhile, based on the World Health Organization Quality of Life questionnaire which consists of 26 questions and covers four domains of quality of life assessment. The physical domain is 40% in the good category, 60% in the sufficient category. The psychological domain, 40% is in the very good category, 33% in the good category, 27% in the sufficient category. In the social domain, 27% were in the excellent category, 46% in the good category, and 27% in the fair category. In the environmental domain, 33% were in the excellent category, 34% in the good category, and 33% in the fair category. Overall, the findings of this study demonstrate that the traditional game model is effective in supporting the improvement of the quality of life of students with special needs in special needs schools.

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INTRODUCTION

Children with special needs are individuals who exhibit differences in physical, intellectual, social, or emotional aspects compared to typically developing children.

(Immawati et al., 2024). This condition often causes children with special needs to experience limitations in interacting with their environment and to face obstacles in developing their personal potential. Therefore, a comprehensive approach is required – one that not only focuses on academic aspects but also aims to enhance the overall quality of life of children with special needs (Taufiqurrahman et al., 2024).

Special Schools serve as specialized educational institutions that provide learning services tailored to the needs and characteristics of children with special needs. However, the learning process in these schools should not solely focus on academic aspects; it should also accommodate the development of motor, social, emotional, and independence skills. This is crucial because the quality of life of children with special needs is greatly influenced by their ability to perform daily activities optimally (Astuti et al., 2021).

The quality of life of children with special needs is one of the key indicators in evaluating the effectiveness of educational interventions. The World Health Organization (WHO) defines quality of life as an individual's perception of their physical, psychological, social, and environmental conditions in which they live (Armanjaya et al., 2024). In the context of children with special needs, quality of life can be enhanced through various activities that support physical development, strengthen self-confidence, and provide opportunities for interaction with the social environment (Harlina, 2024).

One of the strategies with the potential to improve the quality of life of children with special needs is through play activities. Play not only serves as a form of recreation but also as an enjoyable and meaningful learning medium. Through play activities, children can develop motor skills, enhance concentration, build social abilities, and manage emotions in a more adaptive manner (Gandasari, 2023).

Traditional games are a form of play activity that embodies cultural values, togetherness, and social interaction. These games involve physical activities that enhance agility, foster teamwork skills, and develop cognitive abilities through simple strategies. The advantages of traditional games lie in their flexibility, simplicity, low-cost nature, and adaptability to the needs and abilities of children (Widodo & Lumintuarso, 2017).

In the context of inclusive and special education, traditional games hold great potential to serve as both a learning model and a form of play therapy. For students in Special Schools, traditional games can be designed to suit their limitations and abilities. With specific modifications, these games can help children practice motor coordination, foster a sense of togetherness, and strengthen social skills. Such conditions, however, often limit students' opportunities to engage in structured and meaningful play

experiences that support the improvement of their quality of life (Dewi & Sujarwanto, 2025).

In addition, technological advancement and the influence of modern culture have increasingly marginalized traditional games. Children tend to spend more time engaging in digital games that are individualistic and passive, which may limit their opportunities to develop social and motor skills. This condition poses a challenge for teachers and educators in Special Schools to reintegrate traditional games as a contextual and relevant learning medium (Saepudin et al., 2020).

Based on the potential of traditional games and the needs of children with special needs, it is necessary to develop a traditional game model that is tailored to the characteristics of students in Special Schools. In this context, traditional games such as *engklek*, *engrang batok* (coconut shell stilts), *sepit-sepitan*, and *gobak sodor* will be modified to be more adaptive to the needs of the learners. The developed model is expected to serve as a practical guide for teachers and educators in designing play activities that are enjoyable, adaptive, and contribute to improving the quality of life of students.

The novelty of this study lies in integrating traditional games as a medium with the WHOQOL framework as an outcome indicator—an approach that has not been previously applied in the context of Special Schools. Based on existing phenomena and empirical studies, previous research on improving the quality of life of students with special needs has primarily focused on physical aspects, often neglecting the psychosocial dimensions.

Based on the background described above, the research problem in this study is how to design and modify a traditional game model that can be used to improve the quality of life of students with special needs in Special Schools. The objective of this study is to develop and adapt a relevant traditional game model that can be implemented within the learning context of Special Schools. The developed traditional game model is expected to contribute to enhancing the quality of life of students with special needs through the optimization of physical, psychological, social, and environmental aspects. Furthermore, the results of this study are expected to serve as an innovation in the learning process that supports the achievement of special education goals in Indonesia.

RESEARCH METHOD

This study employs a Research and Development (R&D) approach with the aim of producing a product in the form of traditional game models—namely **engklek**, **engrang*

batok* (coconut shell stilts), *sepit-sepitan*, and *gobak sodor* – that can be utilized to enhance the quality of life of students with special needs in Special Schools. The R&D approach was chosen because it is not only oriented toward theoretical testing but also directed at generating practical innovations that can be directly implemented in special education practice.

The research procedure adapts the simplified steps of the Borg & Gall development model, which include: (1) preliminary study through needs analysis, (2) planning of the traditional game model, (3) development of the initial product, (4) expert validation, (5) limited trials, (6) product revision, (7) extensive trials, and (8) final product (Sugiyono, 2019). These stages were carried out systematically to ensure that the developed traditional game model possesses feasibility, implementability, and effectiveness.

The research subjects consisted of 30 students with special needs from Sekolah Luar Biasa Negeri PKK, Lampung Province, including students with intellectual, physical, and developmental disabilities. The subjects were selected using purposive sampling based on the specific needs of the study. Research data were collected through observations, interviews with teachers, questionnaires, and documentation of students' activities during the implementation of the traditional games.

The expert validation in this study aimed to assess the content validity, construct validity, and applicability of the developed traditional game model before it was tested on students in Special Schools. The validation process was conducted by two experts with different but complementary areas of expertise, namely: Special School Teacher (Expert in Special Education) possessing an in-depth understanding of the characteristics, needs, and learning approaches for students with special needs in Special Schools. University Lecturer (Expert in Traditional Games or Learning Model Development) possessing expertise in designing, adapting, and evaluating the suitability of game models in relation to learning objectives and the context of the learners.

The instrument used in the expert validation process was an expert judgment sheet, which was developed based on the following aspects:

- Content suitability aspect, which includes the relevance of the game model to the goal of improving the quality of life of students with special needs.
- Construct aspect, which covers the clarity of the game procedures, ease of implementation, and safety of the activities.
- Language and presentation aspect, which assesses readability, clarity of instructions, and the attractiveness of the game model.

- Practicability aspect, which evaluates the feasibility of implementing the model within the Special School environment

The results of the expert validation were analyzed both quantitatively and qualitatively, using a Likert scale to determine the level of model validity, along with descriptive feedback from the experts as the basis for revising and refining the model prior to field testing.

Data analysis in this study was conducted using both qualitative and quantitative approaches. Qualitative data obtained from observations, interviews, and expert feedback were analyzed descriptively to assess the feasibility and implementability of the traditional game model. Meanwhile, quantitative data derived from questionnaires and student quality of life assessment instruments were analyzed using descriptive statistical techniques and simple comparative tests to identify improvements in students' quality of life before and after the implementation of the traditional game model.

The instrument used to measure quality of life in this study was the World Health Organization Quality of Life-BREF (WHOQOL-BREF), which consists of 26 items and has demonstrated high validity and reliability across various countries, including Indonesia. The Indonesian version has been adapted and validated by the WHOQOL Group (World Health Organization, 1998), with reliability coefficients (Cronbach's Alpha) ranging from 0.70 to 0.84 across domains. Each item in the WHOQOL-BREF uses a 5-point Likert scale with the following score range:

1 = very dissatisfied / very poor

2 = dissatisfied / poor

3 = fairly satisfied / moderate

4 = satisfied / good

5 = very satisfied / very good

RESULTS AND DISCUSSION

Based on the preliminary findings, the researcher developed a design for a traditional game model, including *engklek*, *engrang batok* (coconut shell stilts), *sepit-sepitan*, and *gobak sodor*. These games were modified to suit the characteristics and abilities of students with special needs through rule simplification, reduction of game duration, and adjustment of game equipment to ensure greater safety.

The initial product of the traditional game model was then validated by experts, consisting of traditional game specialists and special education practitioners. The

validation results indicated that the developed traditional game model was deemed "feasible," with several recommendations for improvement. These recommendations included simplifying game instructions and providing alternative rules to accommodate students with specific physical limitations.

After the revision process, the traditional game model was tested on a limited scale involving a small group of students at one Special School (*Sekolah Luar Biasa* or SLB). The results of the limited trial indicated that the students showed great enthusiasm in participating in the games and were able to understand the rules with teacher assistance. In addition, the teachers assessed that the traditional games could be implemented effectively, although an adaptation period was needed during the initial stages of implementation.

Table 1. Initial Validation Results

No	Game	Lecturer's Assessment	Category	Teacher's Assessment	Category
1	Engklek	75	Good	78	Good
2	Sepit Sepitan	75	Good	78	Good
3	Engrang Batok	78	Good	85	Good
4	Gobak Sodor	80	Good	80	Good

Traditional games such as *engklek*, *enggrang batok*, *sepit-sepitan*, and *gobak sodor* were modified to be more inclusive and aligned with the abilities of students in Special Schools (*Sekolah Luar Biasa*). In the *engklek* game, simplification was made by adjusting the shape and size of the court to consist of only seven squares and by reducing the duration of play to make it easier for students to understand and participate. Meanwhile, in *enggrang batok*, the ropes were adjusted to a lower height to match the students' body proportions, the track length was shortened, and circular markers were added at the starting and finishing points to help students better understand the game boundaries.

The *sepit-sepitan* game was also modified by simplifying its equipment. The holes in the PVC pipes were made larger and easier to use, and bright colors were added to match the marbles and ping-pong balls, making the game more visually appealing and aiding identification. As for *gobak sodor*, simplifications were made to the field size and game rules to ensure that the activity remained enjoyable yet not overly complex. All these modifications were designed to enable students with special needs to participate actively, build self-confidence, and gain motor, social, and emotional benefits from engaging in traditional play activities.

At the large-scale trial stage, the traditional game model was implemented at *SLB Negeri PKK Provinsi Lampung*, involving a larger number of students with diverse

characteristics. Observations revealed that the traditional games could be consistently applied across different educational levels, from elementary to secondary. Although students experienced varying levels of difficulty, teachers were able to make appropriate adjustments according to the specific needs of each student group.

Table 2. Post-Revision Validation Results

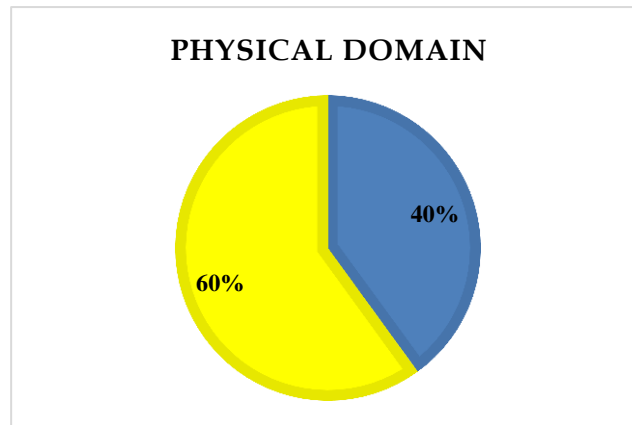
No	Game	Lecturer's Assessment	Category	Teacher's Assessment	Category
1	Engklek	100	Very good	100	Very good
2	Sepit Sepitan	95	Very good	100	Very good
3	Engrang Batok	100	Very good	98	Very good
4	Gobak Sodor	100	Very good	100	Very good

The implementation of the traditional game model had a positive impact on improving students' motor skills. Game activities involving jumping, running, and body coordination stimulated the development of strength, agility, and motor coordination skills. Teachers also observed that students became more physically active compared to their condition before the implementation of the traditional games.

Subject matter experts assessed that the *engklek* game model is highly suitable for use in the learning process. They also agreed that the game is effective in fostering honesty among children during play. As for the *sepit-sepitan* game, both the subject matter experts and elementary school teachers believed that, in general, the game had no significant weaknesses, although they provided several suggestions regarding its technical implementation.

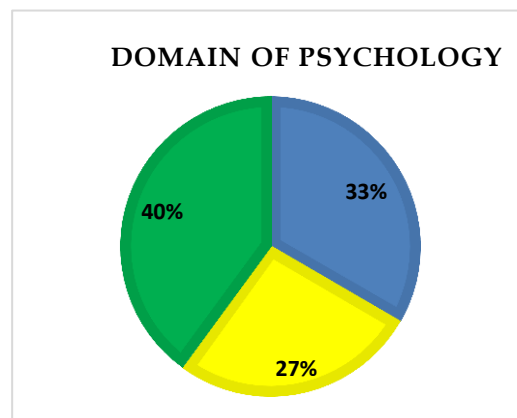
One of the notes given was that the size of the playing field should be flexible, adjusted to the number of participants and the school's field conditions. Based on this feedback, the researcher emphasized that the game should not be limited to the developed model alone but can be modified by teachers according to the available space and the number of students involved. If teachers wish to engage all students in the activity, the playing field can be expanded as needed.

Based on the results of the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire in the physical domain administered to 30 students, the data showed that 12 students (40%) were categorized as having a good quality of life, while 18 students (60%) were in the moderate category. In general, it can be concluded that the quality of life of students with special needs in the physical domain falls into the moderate category. This result is attributed to the implementation of traditional games, which encouraged students to be physically active. The percentage results for the physical domain are presented in the following figure:



Picture 1. Physical Domain

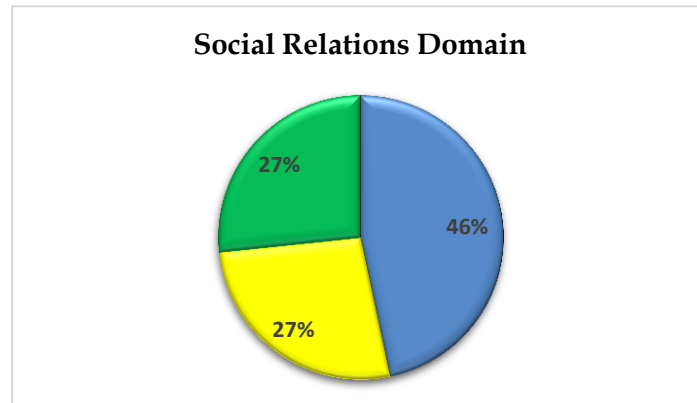
Based on the results of the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire in the psychological domain administered to 30 students, it was found that 12 students (40%) were categorized as having a very good quality of life, 10 students (33%) were in the good category, and 8 students (27%) were in the moderate category. Overall, the quality of life of students with special needs in the psychological domain tended to fall within the good to very good categories. This condition was influenced by traditional game activities that successfully enhanced students' self-confidence in performing physical movements. The percentage results for the psychological domain are presented in the following figure :



Picture 2. Domain of Psychology

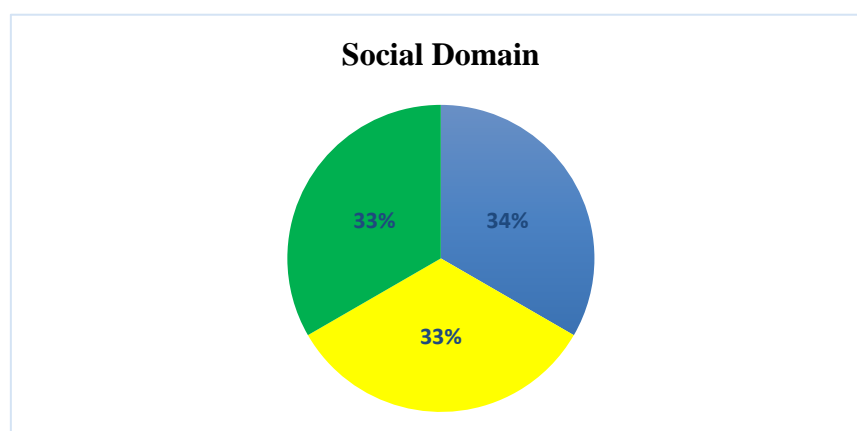
Based on the results of the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire in the social relationship domain, obtained from 30 students, it was found that 8 students (27%) had a very good quality of life index, 14 students (46%) were in the good category, and 8 students (27%) were in the moderate category. Based on these findings, it can be concluded that the quality of life of students

with special needs in the social relationship domain generally falls within the good category. This outcome was influenced by students' engagement in traditional games that emphasize cooperation among peers, thereby enhancing their social interactions. The percentage results for the social relationship domain are presented in the following figure:



Picture 3. Social Relations Domain

Based on the results of the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire in the environmental domain, obtained from 30 students, it was found that 10 students (33%) had a very good quality of life index, 10 students (34%) were in the good category, and 10 students (33%) were in the moderate category. Overall, it can be concluded that the quality of life of students with special needs in the environmental domain tends to fall within the good category. This condition was influenced by the implementation of traditional games that encouraged students to utilize available facilities in their surroundings, thereby providing positive experiences in interacting with their environment. The percentage results for the environmental domain are presented in the following figure:



Picture 4. Domain sosial

The results of the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire, which consists of 26 questions divided into four domains of quality of life assessment, indicate that the majority of students fall into the “good” category of quality of life. These findings demonstrate that the implementation of the traditional game model had a significant positive impact on improving the quality of life of students with special needs at SLB Negeri PKK, Lampung Province.

Quantitatively, the research results revealed an increase in students’ quality of life scores after participating in traditional game activities. This improvement covered the physical, psychological, social relationship, and environmental domains, with the highest achievement observed in the social relationship aspect. These findings suggest that the traditional game model effectively supports the creation of meaningful learning experiences for students with special needs while fostering cooperation among them.

Nevertheless, the study also identified several challenges. Some of these include limited implementation time due to the tight academic schedule and the variation in students’ abilities, which required teachers to adjust the rules more flexibly. However, these obstacles can be overcome through teachers’ creativity in managing activities and the support provided by the school.

Discussion

The results of this study indicate that traditional games serve as an effective medium for improving the quality of life of students with special needs in Special Schools. These findings are consistent with theories suggesting that play activities play a crucial role in child development, particularly in the areas of motor, emotional, and social interaction skills. In the context of students with special needs, traditional games that are systematically designed and modified can provide a more meaningful learning experience compared to typical play activities (Fardani et al., 2025).

The improvement in the physical aspect was found to be significant following the implementation of the traditional game model. Activities such as jumping, running, and coordinating body movements effectively stimulated students’ gross motor skills. This finding is consistent with previous research, which indicated that physical activities through traditional games contribute to enhancing children’s physical fitness. Therefore, traditional games can serve as an enjoyable form of physical therapy for students with special needs (Zebua et al., 2024).

From a psychological perspective, the study's findings indicate an increase in students' self-confidence and motivation. Children who were initially passive began to show courage in taking on roles during the games. These findings align with developmental psychology theories, which suggest that success in simple play activities can foster a sense of competence in children. Thus, traditional games not only serve as a form of entertainment but are also effective in building students' self-confidence (Sewi & Mailasari, 2020).

The social dimension constitutes a significant finding of this study. Engagement in traditional games provided students with experiential learning opportunities to collaborate, respect turn-taking, and communicate effectively with peers. This is particularly pertinent for children with special needs (CWSN), who frequently encounter barriers in social interaction. These results substantiate the proposition that traditional games can function as a form of contextualized social skills training, offering a simple, practical, and readily implementable approach within the school setting (Prakarso, 2015).

Teachers responded positively to the developed traditional game model. They assessed that the games were not only easy to implement but also capable of promoting active student engagement in the learning process. These findings suggest that traditional games hold potential for integration into non-academic instruction in special needs schools (SLB) as an alternative strategy that supports the achievement of special education objectives, namely, optimizing the development of students' potential (Handayani & Kartiko, 2021).

This study indicates that teacher involvement is a key factor in the successful implementation of traditional games. Teachers play a central role in providing instructions, modifying rules, and motivating students throughout the activities. These findings underscore that educators function not only as facilitators but also as guides who ensure that the conduct of the games aligns with the intended learning objectives.

Although yielding positive outcomes, this study also identified several challenges, including differences in student abilities and limited implementation time. These conditions necessitate flexibility in the application of traditional games. Therefore, there is a need for a model guideline that can be adapted to the specific characteristics of students and the conditions of each school, ensuring that traditional games remain relevant for heterogeneous student groups.

The traditional games developed in this study offer added value by simultaneously contributing to the preservation of local culture. Through these activities, students not

only gain benefits for their personal development but are also introduced to the richness of national heritage. Thus, the development of a traditional game model provides a dual advantage: serving as a medium for special education while also functioning as a vehicle for cultural preservation (Rachman et al., 2023).

The findings of this study underscore the importance of adopting a holistic approach in the education of children with special needs. Efforts to enhance quality of life cannot be achieved solely by focusing on academic aspects; they must also encompass physical, psychological, and social dimensions. Traditional games have proven effective in addressing these needs through activities that are simple, enjoyable, and beneficial for students' overall development.

Therefore, the development of a traditional game model can be regarded as a significant innovation in special education in Indonesia. This model is not only relevant for implementation in special needs schools, but also holds potential for adaptation in inclusive schools. Future research with a broader scope, involving various types of challenges faced by children, is needed to further refine the traditional game model and enhance its potential for nationwide implementation.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that the development of a traditional game model is effective in enhancing the quality of life of students with special needs in special schools (SLB). The developed model positively impacts multiple dimensions, including the physical domain (motor skills and fitness), the psychological domain (self-confidence and positive emotions), the social domain (communication and cooperation), and the environmental domain (utilization of available facilities and resources). Furthermore, traditional games offer distinct advantages as they are easy to implement, enjoyable, and embed cultural values that are important to introduce to students.

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