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Effectiveness of the role-playing shaftel (RPS) model for enhancing social skills in primary school physical education

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ABSTRACT

Background: Social skills are essential for primary school students, yet few studies have examined the effectiveness of the Shaftel Role-Playing (RPS) model in Physical Education (PE), particularly in Indonesia. **Objectives:** This study aimed to examine and evaluate the effect of the Shaftel Role-Playing (RPS) model on the development of students' social skills in Physical Education learning. **Methods:** A one-group pretest-posttest design was implemented with 30 sixth-grade students selected through simple random sampling. The RPS intervention was delivered across 12 sessions (70 minutes each). **Finding/Results:** The analysis revealed a statistically significant improvement in students' social skills following the implementation of the RPS model (Sig. = 0.013). The intervention demonstrated a medium effect size (Cohen's d = 0.49), indicating that the model produced a meaningful and practically relevant impact on students' social skill development. **Conclusion:** The findings confirm that the Shaftel Role-Playing (RPS) model significantly enhances elementary students' social skills within Physical Education learning. This result highlights the model's potential as an effective pedagogical strategy for fostering social competence in school-based contexts, although future studies using controlled designs are recommended to further validate these outcomes.

Keywords: Role-playing model; physical education; primary school; social skills

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INTRODUCTION

Primary school is an important time for students to develop social skills. In Primary School, students begin to interact with various people from different backgrounds, such as peers, teachers, and school staff (Hajovsky et al., 2023). They also face social challenges and conflicts that require communication, cooperation, and problem-solving skills (Rademacher et al., 2022). With good social skills, students can establish positive relationships with peers, adults, and teachers at school (Cipriano et al., 2023). Social skills can also help students to be accepted by their peers, prevent disruptive social situations, and have the ability to meet daily needs in a social environment (Kian, 2020). Negative effects include externalizing behavior, juvenile delinquency, depression, social anxiety, scholastic failure, and even unemployment are frequently linked to low social skills (Sanz-Martin et al., 2022; Skoura-Kirk et al., 2021). In addition, the low social skills of students

can provide psychological pressure that will result in social isolation from the student (Ferreira et al., 2020; Howard & Gutworth, 2020). As a result, elementary school is a crucial period for pupils' social skill development.

The urgency of teaching social skills in elementary schools is driven by the indication that some students lack these essential competencies, as evidenced by behaviors such as non-compliance with school regulations (Mérida-López & Extremera, 2022). According to a study by (Anzalena et al., 2020), incidents of student indiscipline occur daily, manifesting in various forms of rule violations (Martos Martínez et al., 2021). The most frequent offenses involve dress code violations for instance, students not tucking in their shirts and more serious behaviors such as smoking within school premises (Bibi et al., 2020). This deficiency in social skills is closely linked to students' limited capacity for self-regulation. Novia (2023) found that students with poor self-control, especially when dealing with peer disturbances, are often vulnerable to bullying. This leads to heightened stress levels and, in some cases, necessitates school transfers (Despoti et al., 2021). Alarming, there have also been reported cases where students have taken their own lives after experiencing prolonged bullying (Farina & Belacchi, 2022; García et al., 2021).

Furthermore, low social skills are correlated with both physical and verbal aggressive behaviors. A survey conducted by the Ministry of Women's Empowerment and Child Protection (KemenPPA) reported that between January and April 2023, 251 children aged 6-12 years were victims of school-based violence (CNNIndonesia, 2023). In terms of verbal abuse, data from the Federation of Indonesian Teachers' Unions (FSGI), as compiled by Republika, documented 16 cases of bullying within school environments between January and August 2023. The majority of these incidents occurred in elementary and junior high schools, comprising 25% of all reported cases. Bullying was also prevalent in senior high schools and vocational schools, each accounting for 18.75% of the cases, while Islamic junior high schools (Madrasah Tsanawiyah) and Islamic boarding schools each contributed 6.25% of the total (Muhamad, 2023).

Schools provide a strategic context for fostering students' social skills, as physical education lessons offer opportunities for collaboration, role negotiation, and interactive problem-solving within group activities (Gazali et al., 2024). Through structured social interaction during PE, students can practice empathy, cooperation, and communication while engaging in movement-based tasks, allowing them to develop both social competence and adaptive interpersonal behaviors (Rahmadi et al., 2023). Unlike general descriptions of physical exercises, this approach emphasizes how PE can serve as a platform for guided social learning and experiential development of social skills (Friskawati et al., 2023; García-Hermoso et al., 2020; Opstoel et al., 2020).

One way that teachers can choose to teach social skills in physical education learning is through the one designed by Shaftel (Catahan et al., 2025; Joyce et al., 2016; Schüller et al., 2025). Students are required to act out and mimic the characters in the content or event as part of the Role-playing learning methodology (Löfstrand & Zakrisson, 2025; Schüller et al., 2025). Dramatizing and expressing a person's actions, facial emotions, and gestures in interpersonal social interactions is the aim. The social cluster model is part of the Role-playing model (El Boudouri et al., 2025). Additionally, the model fosters empathy in pupils, helps them collect and organize information on social concerns, and aims to enhance their social skills (Palacios Garay et al., 2022). Under this learning paradigm, students make most of the decisions and teachers act as facilitators (De Witt et al., 2023). Students are given the freedom to create their own knowledge by their teachers (Wang, 2022). This Shaftel Role-playing paradigm consists of nine steps, with phase one introducing the problem; Students are chosen in process two, the stage is set in phase

three, observers are prepared in phase four, Role-playing takes place in phase five, discussion takes place in phase six, Role-playing occurs again in phase seven, discussion and evaluation take place in part eight, and experience sharing takes place in phase nine (Ekelund et al., 2023).

The Role-Playing Shaftel (RPS) model offers contextual learning experiences through exploration of social roles (El Boudouri et al., 2025; Löfstrand & Zakrisson, 2025), interpersonal interaction, and reflective discussion of values, making it a potentially effective pedagogical approach for developing students' social skills (Otani et al., 2024). Role-playing has been widely recognized as a form of experiential and socio-dramatic learning that enhances communication, empathy, cooperation, and problem solving competencies central to social skill development (Ristianisa & Suhardi, 2020). However, despite its theoretical relevance, the application of role-playing in physical education (Metzler, 2017). Existing attempts to integrate role-playing into PE, such as adaptations of the five-stage Samalot-Rivera framework (Budiman et al., 2023), diverge substantially from the original nine-phase Shaftel model (Feng et al., 2025; Löfstrand & Zakrisson, 2025; Restrepo et al., 2025). This misalignment underscores a clear research gap: the pedagogical impact of the authentic Shaftel RPS model has not yet been systematically examined in elementary school PE settings, particularly within Indonesia where empirical evidence on social skills interventions in PE remains scarce (Irmansyah et al., 2021).

Although many studies have explored the use of role-playing across various fields—for instance, in therapy to reduce social anxiety and build confidence (Abbott et al., 2022), in digital learning environments to foster critical thinking and motivation (Chen & Wu, 2021), and in promoting empathy while reducing bullying and aggressive behavior among students in non-physical education settings Bagès et al. (2021) few have focused on its application in physical education. In addition, virtual role-playing has been shown to support adolescents' social and emotional development, highlighting the broader benefits of this method (Kilmer et al., 2023). Despite these findings, limited attention has been given to the Role-Playing Shaftel (RPS). However, few studies have empirically tested the effectiveness of the Shaftel Role-Playing (RPS) model specifically in Indonesian PE contexts. Therefore, this study aims to examine whether the RPS model significantly enhances students' social skills in primary school physical education.

METHOD

Research Design

This study employs a One Group Pretest–Posttest Design as an experimental research methodology. In the pretest stage (O1), students are given a social skills questionnaire prior to the implementation of the RPS model. The treatment stage (X) involves learning activities using the RPS model conducted over 12 meetings. After the treatment, the posttest stage (O2) is administered by distributing the same questionnaire to assess changes in students' social skills.

The One Group Pretest–Posttest design is susceptible to several threats to internal validity (Creswell, 2024). These include subject characteristics, mortality, location, instrumentation decay, data collector characteristics and bias, testing effects, history, maturation, subject attitudes (Hawthorne effect), regression to the mean, and implementation fidelity. To address these threats, the researcher employed a homogeneous sample, ensured participant retention through clear scheduling and communication, maintained consistent research settings and validated instruments, standardized data collection procedures, used objective assessment tools, applied equivalent pre- and posttest items, monitored external events, minimized the time interval between measurements, reduced participants' awareness of observation,

analyzed average score changes, and implemented the intervention consistently through a detailed learning plan and systematic documentation.

Participants

The study population consisted of 130 Grade 5 students from four public primary schools in Bayongbong, from which 30 students were randomly selected using a simple random sampling technique. Eligible participants were required to regularly attend physical education classes, have parental consent, and be present during all intervention, pretest, and posttest sessions, while students with physical limitations or incomplete attendance were excluded. The final sample comprised 30 students, evenly distributed by gender, with a mean age of approximately 11.5 years, representing a relatively homogeneous group.

Instruments

The instrument used to measure students' social skills was a self-developed questionnaire based on established theoretical frameworks (Jurevičienė et al., 2018; Lane et al., 2005; Pratiwi et al., 2022; Takahashi et al., 2006). Social skills were operationalized across five dimensions: interaction, communication, participation, social cognition, and emotional skills. The instrument consisted of 24 valid items rated on a 4-point Likert scale (1 = very inappropriate to 4 = very appropriate), with higher scores indicating better social skills.

Content validity was established through expert judgment by three specialists in educational psychology and psychosocial development, with all items meeting the minimum Content Validity Index criterion ($CVI \geq 0.78$). The instrument was piloted with 130 sixth-grade students from four elementary schools with similar characteristics to the main research site. Item validity testing using product-moment correlation ($\alpha = 0.05$) resulted in 24 valid items, while two items were removed. Reliability analysis showed high internal consistency for the total scale and all subscales (Cronbach's $\alpha = 0.874$).

Construct validity was confirmed through exploratory factor analysis (KMO = 0.812; Bartlett's test $p < 0.001$), with all factor loadings exceeding 0.40, supporting the five-factor structure. Data analysis included prerequisite tests for normality (Kolmogorov-Smirnov) and homogeneity (Levene's test), followed by hypothesis testing using a paired-samples t-test in SPSS 25. Effect size was calculated using Cohen's d to assess the practical significance of the intervention.

Procedures/Intervention

The research procedure was carried out in three main stages: pretest, intervention, and posttest. First, a pretest was administered to assess students' initial levels of social skills using a validated social skills questionnaire. Next, students were introduced to the Role-Playing Shaftel (RPS) model to ensure they understood the structure, roles, and expectations of the learning approach.

The intervention phase consisted of physical education instruction using the RPS model conducted over 12 sessions, as supported by previous research (Sohrabi, 2022). Each session lasted 70 minutes, comprising two 35-minute learning periods, and was designed to facilitate the development of students' social skills. The RPS-based learning activities followed a structured sequence of nine phases: warming up the group, selecting participants, setting the scene, preparing observers, enacting role play, discussion and evaluation, reactivating roles, further discussion and evaluation, and experience sharing.

with generalization (Joyce et al., 2016). These activities were organized into three instructional stages: introduction, core activities, and closing.

After the completion of the intervention, a posttest was administered using the same social skills questionnaire to measure changes in students' social skills. The posttest results were used to determine the extent of improvement following physical education instruction implemented through the Role-Playing Shaftel (RPS) learning model.

Table 1. Role-playing Shaftel (RPS) Model Learning Scenario

Stage	Activity Description	Time
Introduction	Opening activities, attendance, learning objectives, and warm-up	15 minutes
Core Activities	Implementation of RPS phases: (1) warming up the group, (2) selecting participants, (3) setting the scene, (4) preparing observers,	50 minutes
	(5) role play enactment, (6) discussion and evaluation, (7) role reactivation, (8) further discussion and evaluation, and (9) experience sharing and generalization.	
Closing	Cooling down and reflection.	5 minutes
Total Time		70 minutes

Data Analysis

Data analysis was conducted using IBM SPSS version 25. Prior to hypothesis testing, prerequisite analyses were performed to ensure that the assumptions of normality and homogeneity were met. Normality was examined using the Kolmogorov-Smirnov test, whereas homogeneity of variance was assessed using Levene's test. Both assumptions were evaluated at a significance level of $\alpha = .05$. After verifying that the data met these requirements, the primary hypothesis was tested using a paired-sample t-test to determine whether the Role-Playing Shaftel (RPS) intervention produced a statistically significant difference between pretest and posttest social skills scores. To complement statistical significance and provide an estimate of practical impact, Cohen's d effect size was calculated and interpreted using conventional benchmarks (small = .20, medium = .50, large = .80). All analyses followed standard statistical guidelines to ensure rigor and reproducibility.

RESULTS AND DISCUSSION

Results

Data Description

The researcher provides a descriptive overview of the research data to illustrate the calculation results of students' social skills scores. The test results are presented based on the group that received the Role-Playing Shaftel (RPS) learning model. A complete dataset is presented in Table 2.

Table 2. Descriptive Statistics of Social Skills Pretest and Posttest Results

	Average	Median	Mode	Std. Devition	Minimum	Maximum
Pretest.	71.43	72.50	74.00	9.68	43.00	89.00
Posttest.	74.33	75.00	74.00	8.79	59.00	90.00

Based on Table 2, the social skills data can be interpreted as follows: The average social skills score increased from 71.43 to 74.33 following the implementation of the Role-Playing Shaftel (RPS) model. Both the median and mode also showed slight increases, indicating a general upward trend in student performance. The standard deviation decreased from 9.68 to 8.79, suggesting a more even distribution of scores and greater consistency among students after the intervention. Notably, the minimum score rose significantly from 43.00 to 59.00, reflecting meaningful improvement even among

the lowest-performing students. Meanwhile, the maximum score increased slightly from 89.00 to 90.00, indicating that some students achieved near-perfect results.

To enhance the understanding of these findings, the comparison between pretest and posttest results is also illustrated in **Figure 1** below, presented in the form of a bar chart.

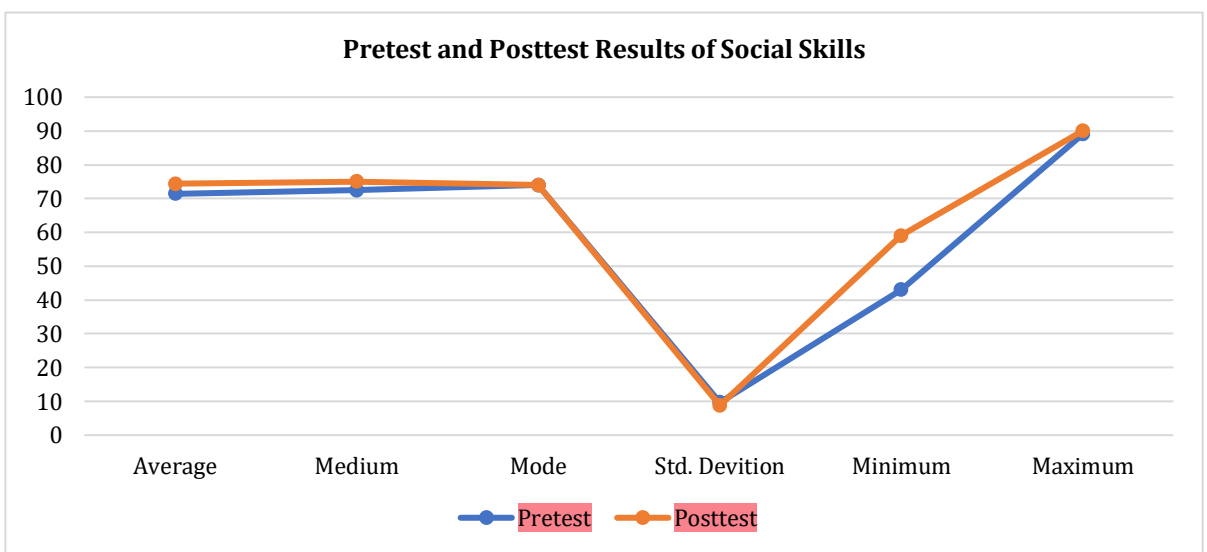


Figure 1. Bar Chart Comparing Pretest and Posttest Results of Social Skills

Overall, these descriptive data suggest an improvement in students' social skills following the application of the RPS model. However, further statistical analysis is required to determine the significance of these changes.

Normality test

Normality testing is a prerequisite for parametric data analysis. Given that the sample size in this study was relatively small ($n = 30$), data normality was examined using the Shapiro-Wilk test, which is more appropriate and sensitive for samples smaller than 50. The analysis was conducted using IBM SPSS version 25. A significance value greater than 0.05 (Sig. > 0.05) indicates that the data are normally distributed, whereas a value less than 0.05 (Sig. < 0.05) indicates a deviation from normality.

Table 3 presents the results of the Shapiro-Wilk normality test for students' social skills scores before and after the implementation of the Shaftel Role-Playing (RPS) model.

Table 3. Normality Test Results (Shapiro-Wilk)		
	Pretest	Posttest
Sig.	0.200	0.200

Based on the results, both the pretest and posttest social skills scores show significance values greater than 0.05, indicating that the data are normally distributed. Therefore, the assumptions for conducting parametric statistical analyses were satisfied.

Homogeneity

The homogeneity test is the next step in the requirements for statistical testing. Using IBM SPSS 25, the One Way Anova statistical test is performed to test for homogeneity. If the significance level (Sig.) is greater than 0.05, the data is homogenous; if it is less than 0.05, the data is not. Table 4 displays the findings of the homogeneity test computation.

Table 4. Homology Test Results

Levene Statistic.	df1	df2	Sig.
0.219	1	58	0.641

It is possible to conclude that the distribution of facts is homogeneous based on the calculation of the homogeneity in the table above, which shows that the significance (Sig.) = 0.641 > 0.05 and the fee of leven statistic = 0.219.

Hypothesis Testing

IBM SPSS 25's paired samples test is the statistical method used to evaluate the hypothesis. The following forms the foundation of the data influence test: Theory: a) H_0 = The Role-playing Shaftel (RPS) model in physical education has no discernible impact on students' social skills; b) H_i = The Role-playing Shaftel (RPS) model in physical education has a discernible impact on students' social abilities. The decision criteria are as follows: if the probability or significance value is greater than 0.05, H_0 is accepted and H_i is rejected; if it is less than 0.05, H_0 is rejected and H_i is approved. Table 5 displays the results of the paired sample test, which are as follows.

Table 5. Paired Samples Test Results

Paired Comparison	Mean Diff	SD (diff)	Std. Error Mean	t	df	Sig. (2-tailed)	Cohen's d	95% CI Mean Diff
Pretest-Posttest	2.90	6.00	1.10	2.662	29	0.013	0.49	0.67-5.13

The paired-samples t-test indicated a statistically significant improvement in students' social skills following the implementation of the Role-Playing Shaftel (RPS) model in physical education ($p = 0.013$).

In practical terms, the mean increase of 2.9 points from a pretest mean of 71.4 represents an approximate 4% improvement, which can be considered educationally meaningful. Furthermore, the effect size (Cohen's $d = 0.49$) indicates a medium effect, suggesting that the RPS intervention has a practically relevant impact on students' social skills.

Discussion

This study aimed to examine the influence of the Shaftel role-playing model within the context of Physical Education (PE), with a specific focus on enhancing students' social skills. The findings indicate that the implementation of role-playing activities in PE lessons has a positive and significant effect on students' social competencies, including communication, empathy, cooperation, and constructive conflict resolution.

The results of this study are generally consistent with previous research that has reported positive effects of role-playing-based interventions on social and emotional development. For instance, Sohrabi (2022) found that role-playing activities integrated into physical education contexts contributed to improvements in students' social interaction and cooperative behaviors. Similarly, Budiman et al. (2023) reported that PE-based social learning interventions supported the development of students' interpersonal skills and emotional regulation. While these studies share a common focus on social outcomes, direct comparison of effect sizes is limited due to differences in research design, duration of intervention, participant characteristics, and measurement instruments. Nevertheless, the present findings reinforce the growing body of evidence supporting the role of physical education as an effective medium for social and emotional learning (SEL).

In addition, the findings align with earlier studies conducted outside the physical education context. Abbott et al. (2022) demonstrated that role-playing could reduce

social anxiety and enhance self-confidence, while Dorri et al. (2019) and Nasr-Esfahani et al. (2019) reported improvements in procedural performance and academic outcomes through role-playing methods. Other studies have highlighted the effectiveness of role-playing in fostering critical thinking (Chen & Wu, 2021), increasing student motivation (Bramantoro et al., 2020), enhancing empathy, and reducing bullying and aggressive behaviors (Bagès et al., 2021; Sahin, 2012). More recent evidence also supports the role of role-playing in developing adolescents' social and emotional competencies and broader 21st-century skills (Aura et al., 2023; Kilmer et al., 2023).

Although the intervention produced statistically significant improvements, the effect size obtained in this study was categorized as medium. This moderate effect size may be explained by several factors. First, the duration of the intervention was limited to 12 sessions, which may not have been sufficient to generate a large effect on complex and deeply rooted social skills. Second, the use of a One Group Pretest-Posttest design without a control group may have constrained the magnitude of observable effects. Third, students' social skills are shaped by multiple contextual influences beyond the school environment, such as family background and peer interactions, which could not be fully controlled in this study. Despite these limitations, a medium effect size remains educationally meaningful, particularly within the context of school-based interventions.

Furthermore, the findings of this study align with the theoretical foundation of pedagogical role-playing, particularly the Role-Playing Shaftel (RPS) model developed by (Joyce et al., 2016). This model is systematically structured to foster social skill development through a sequence of stages that emphasize active student interaction. In the initial stage, teachers introduce relevant social issues such as violence in sports with the goal of raising students' empathy toward victims and enhancing social awareness. Additionally, student involvement as critical observers of the role-play process contributes to the development of their emotional and social sensitivity. This stage helps students understand multiple perspectives and the underlying cognitive processes of social behavior, thereby strengthening essential social competencies such as empathy and interpreting social cues.

The findings also support the pedagogical principles of the Role-Playing Shaftel (RPS) model, which emphasizes the development of social skills through structured stages of engagement. By exploring relevant social issues and engaging in guided reflection, students learn to interpret social cues, consider multiple perspectives, and apply prosocial strategies in meaningful contexts. The performance stage allows students to test alternative solutions and social behaviors, while repeated practice helps strengthen positive social habits in line with stimulus-response principles. The final discussion stage consolidates learning through collaborative reflection and peer feedback. Rather than providing an extensive theoretical exposition, the present study affirms the core idea that social competence develops through interaction and guided participation an idea clearly reflected in the learning processes observed.

Overall, the results demonstrate that the Shaftel role-playing model is effective in fostering students' social skills within Physical Education. Students benefit from active, contextual learning experiences that enhance their ability to communicate, empathize, collaborate, and address interpersonal challenges constructively.

The practical implication of these findings suggests that elementary school teachers can employ role-playing activities as an effective instructional strategy to nurture students' fundamental social skills, including empathy, cooperation, communication, and positive conflict resolution.

CONCLUSION

This study shows that the Role-Playing Shaftel (RPS) learning model has a positive effect on improving elementary school students' social skills in Physical Education. The findings suggest that RPS can support the development of the affective domain through active and contextual learning experiences. However, this study has several limitations, including the use of a non-equivalent pre-post design without a control group and reliance on a self-report instrument, which may limit causal interpretation and introduce response bias. Therefore, the results should be interpreted with caution. Future studies are encouraged to employ controlled experimental designs, include multiple data sources, and examine the long-term effects of RPS to strengthen the evidence base.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest related to this study.

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