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Stimulating Early Childhood Gross Motor Skills through Gobak Sodor at TK Dharma Wanita 2 Temon

Subekhi Hamzah Sari Nur Rohim*[1], Ardhana Januar Mahardhani[1], Hadi Cahyono[1]
[1]Universitas Muhammadiyah Ponorogo, Indonesia.

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ABSTRACT
Young children need plenty of chances to run, dodge, and balance, yet many kindergartens offer only a narrow range of physical activities, and traditional games are used less and less. This study examined how the traditional game Gobak Sodor was planned and carried out at TK Dharma Wanita 2 Temon, Ponorogo, how it stimulated children's gross motor skills (agility, balance, and coordination), and what helped or hindered it. A qualitative case study was used. Data came from participant observation, interviews with the classroom teacher and the principal, and documentation, and were analysed with the interactive model of Miles and Huberman. Credibility was strengthened through triangulation and persistent observation. The teacher prepared the equipment and the court beforehand, and the children waited in an orderly way while the teacher divided them into balanced groups. During play the children showed agility by feinting and dodging to reach the finish without being tagged. The game asked them to match what they thought with what they did, and it required close coordination with teammates. Cheering from classmates who were not playing and small snack rewards from the teacher supported the activity. Miscommunication and poorly matched teams were the main obstacles, and the teacher dealt with them by reminding the children that everyone is equal and has strengths and weaknesses. Read through ideas about stimulation, motor development, and social-constructivist learning, the findings show that Gobak Sodor can build gross motor skills and cooperation at low cost while keeping a local tradition alive.

INTRODUCTION

Early childhood covers the years from birth to six. People often call it the golden age, because the brain develops very quickly and the stimulation a child receives at this stage shapes later growth (Ramadhan et al., 2022). Physical, motor, cognitive, emotional, and social development all move forward together, and young children pay close attention to how the adults around them behave and speak.

One way to meet these developmental needs is stimulation: playful, thought-provoking activities that engage the senses of hearing, sight, touch, smell, and taste (Winardy & Septiana, 2023). Children cannot work out on their own what their hands and legs are for, such as grasping, stepping, walking, and running, so they need adults to help them. Stimulation works best when teachers and children enjoy it together (Fadillah, 2020).

Motor development is the change in how children move as they mature and as their environment shapes them (Rosdiana & Pratiwi, 2023). It is usually split into fine and gross motor skills. Fine motor skills use the small muscles, mostly in the hands, for things like writing, grasping, drawing, and stacking blocks (Sunarwati et al., 2026). Gross motor skills use the large muscles and the whole body, and they depend on how mature the child is (Yulianti et al., 2026). Walking, jumping, running, throwing, swinging, hanging, sitting, and standing are typical examples. Good gross motor skills also help children feel confident and form a positive picture of themselves, and they support thinking skills (Hidayat, 2022).

*Corresponding Author
e-mail: subekhi.hamzah97@gmail.com

Play is where much of this happens. Piaget saw play as the way young children practise and consolidate what they know (Waite-Stupiansky, 2018) and Ginsburg argues that play supports children's cognitive, physical, social, and emotional growth (Jakobsen & Fischer, 2025). Physical activity interacts with growth and maturation (Rusmiyati & Kertopati, 2021), and running and jumping become steadily more coordinated through early childhood (Hasanah & Kuswanto, 2025). A game that mixes vigorous movement, rules, and other children is therefore a natural way to stimulate gross motor skills.

Parents, teachers, and the school environment all have a part to play, because young children cannot stimulate themselves. One activity teachers can use is *Gobak Sodor*, a traditional game that has been played for generations. Players move on a rectangular court divided into sections. Defenders guard the lines, attackers try to get past without being touched, and an attacker who is touched swaps places with a guard. *Sodor* means "to thrust forward", which refers to the outstretched body and hands used to touch an opponent. The game builds balance, agility, speed, accuracy, concentration, and teamwork.

Several studies have looked at *Gobak Sodor* and gross motor development. Mardiana et al. (2025) found that a modified version improved the gross motor skills of Group B kindergarten children aged 5–6. Utami & Widyasari (2023) developed a *Gobak Sodor* playmat that proved effective for children of the same age, and Chang & Yen (2026) judged a developed version of the game feasible for improving motor skills. Rahmadani et al. (2017) looked more broadly at developing young children's physical-motor abilities through traditional games, and other studies have described kindergarten children's gross motor abilities.

Most of this work, however, develops a product or tests whether it works, using pretest–posttest or action research designs. The studies reviewed here say less about how teachers actually plan and run *Gobak Sodor* in a village kindergarten, what children's agility, balance, and coordination look like during play, and what helps or hinders the game. The game is also rarely discussed as a way to introduce local wisdom to children who know it less well than earlier generations did. This study addresses that gap with a qualitative case study of planning, implementation, motor development, and supporting and inhibiting factors in one local kindergarten.

The study therefore has three aims: (1) to describe how *Gobak Sodor* was planned and carried out to stimulate children's gross motor skills at TK Dharma Wanita 2 Temon; (2) to describe how children's gross motor skills, namely agility, balance, and coordination, showed up during the game; and (3) to identify the factors that supported or hindered the activity and the solutions used.

RESEARCH METHOD

Research Design

This study used a qualitative case study design (Creswell & Creswell, 2018; Pahleviannur et al., 2022). The researcher went into the field, made an initial visit, and asked permission from the school before starting. The case centred on how *Gobak Sodor* was carried out as a way to stimulate gross motor skills at TK Dharma Wanita 2 Temon, and on what supported or hindered it. A case study fits because a traditional game used for motor stimulation only makes sense in its real setting: the school, its teachers, its facilities, and its community.

Research Site and Participants

The study took place at TK Dharma Wanita 2 Temon, Ponorogo Regency, East Java, a private kindergarten that has been running since 2015. It started as part of TK Dharma Wanita Temon in another hamlet. As the number of children grew, their homes were far from the school,

and the roads in 2015 were still steep and hard to travel, the principal and local residents set up a separate kindergarten in Temon. It remains under the same foundation as the original school. In 2026 it had 41 children in a playgroup (ages 3–4), Group A (ages 4–5), and Group B (ages 5–6).

The participants were the children of Groups A and B, whom the researcher observed during the game, and the classroom teacher and the principal, who were interviewed. The researcher took part as a participant observer who designed and prepared the activity, while the teacher supervised the children.

Procedure

The *Gobak Sodor* sessions took place on Saturdays on the school field. Before each session the researcher designed the activity and prepared the court, keeping the children's age and condition in mind so that the game would be safe, effective, and fun enough that the children would not get bored quickly. The teacher supervised throughout, and the children received instructions and a demonstration before they started.

Data Collection

Data were collected in three ways (Sugiyono, 2018): participant observation of the children while they played; in-depth interviews with the classroom teacher and the principal about planning, implementation, children's development, and what helped or hindered the activity; and documentation, meaning photographs and field notes, backed up by interview recordings. The interviews were semi-structured and followed the guide in Table 1, which came from the three research questions and the motor development literature.

Table 1. Interview guide

Research focus	Indicator	Guiding question
Planning and implementation	Court preparation, rules, grouping by age, instruction and demonstration, safety	How is a *Gobak Sodor* session prepared and explained to the children?
Agility	Running, dodging, and changing direction quickly	How do the children move when they try to pass the guards?
Balance	Stopping, keeping position on a line, avoiding falls	How steady are the children when they stop, turn, or stand on a line?
Coordination	Coordination of body, eyes, and hands; response to teammates and opponents	How do the children coordinate their movements with teammates and opponents?
Supporting factors	Facilities, teacher support, children's enthusiasm	What helps the activity run well?
Inhibiting factors and solutions	Obstacles, ground condition, weather, differing abilities, and responses to them	What difficulties arise, and how are they handled?

Researcher Role and Ethical Considerations

The researcher joined the activity as a participant observer and designed the court and the game, while the classroom teacher stayed responsible for supervising the children. The school gave permission before data collection began, the informants were told what the interviews were for, and the children were observed only during ordinary school activities. Safety was part of the plan: the court was set up beforehand and the teacher supervised throughout.

Data Analysis and Trustworthiness

The data were analysed with the interactive model of Huberman & Miles (2012) , which has three linked steps: data reduction, data display, and conclusion drawing and verification. In reduction, the researcher selected, focused, and sorted the data and set aside what was not needed. In display, what remained was arranged as narrative, matrices, or charts. In the last step the displayed data were interpreted and checked again and again.

Trustworthiness followed Guba & Lincoln (1994). To strengthen credibility, the researcher used member checking, stayed in the field long enough, and kept observing persistently. For transferability, the case is described in enough detail for readers to judge whether it applies elsewhere. The supervisors audited the research process for dependability, and the findings were tied to field notes, interview transcripts, and documentation for confirmability. Data were also triangulated by technique (observation, interview, documentation), by source (children, teacher, principal), and by time (Groups A and B at different times).

RESULTS

Planning and Implementation of Gobak Sodor

Planning started with preparing a safe and inviting play area. The researcher drew the court before the session and adjusted its design to the children's age and condition. The teacher prepared the equipment and the place, supervised the game, and gave instructions and a demonstration before the children began. Figure 1 shows the court. In the interviews, the teacher described how the children waited in an orderly way while the teacher divided them into balanced groups.



Figure 1. The *Gobak Sodor* court at the school and the children taking positions on it (documentation by the researcher).

Figure 1 shows a rectangle drawn straight onto the packed soil of the schoolyard in white lines, with cross lines dividing it into sections. The word start is written at the near end and finish at the far end, and a 9 m mark runs along the left edge. Red-and-white dashed lines cross the court, and yellow rectangles sit inside the sections. Several children in school uniform stand at different points on the court, some near the start line and others in the middle and far sections, all looking toward the field. The open yard and the playground equipment in the background show that the activity took place outdoors in the school grounds. Table 2 lists the main features of the court and what each contributes to gross motor stimulation.

Table 2. Features of the *Gobak Sodor* court documented in Figure 1

Feature	What the documentation shows	Relevance to gross motor stimulation
Court boundary	White lines on the soil forming a rectangle	Defines the playing area; staying inside it requires body control
START and FINIS labels	Words written at the near and far ends of the court	Give a clear direction and goal for running
Length mark	"9 m" written along the left edge	Sets a known distance to be covered
Dashed crossing lines	Red-and-white lines dividing the court into sections	Appear to mark the lines to be passed or guarded, prompting dodging and stopping
Position markers	Yellow rectangles inside the sections	Visual cues for positions, helping children plan where to move

Development of Children's Gross Motor Skills

The study looked at three aspects of gross motor skill, defined from the motor development literature (Bhatia et al., 2015; Rahmadani et al., 2017; Rosdiana & Pratiwi, 2023). Agility is the ability to run, dodge, and change direction quickly. Balance is the ability to stop, turn, and hold one's position without falling. Coordination is using the body, eyes, and hands together in response to teammates and opponents. *Gobak Sodor* asks for all three at once: attackers have to get past the guarded lines without being touched, and guards have to move along a line and stretch out to touch an opponent. In the interviews, the informants said the children were agile and used feinting runs to reach the finish without being caught by the opposing team. They also said the game made the children match what they were thinking with what they were about to do, and that it required good coordination with teammates so that nobody misunderstood anybody. Table 3 summarises these findings.

Supporting Factors, Inhibiting Factors, and Solutions

The documentation shows some conditions that matter for the activity. The school has an open yard big enough for a court about 9 m long, and play equipment next to the field gives the children a familiar outdoor setting. The surface, though, is bare and uneven soil, so safety needs attention when children run and change direction. The interviews added the human side. Children who were not playing cheered on those who were, and the teacher always gave a small snack as a reward when children reached the finish. The main obstacles were miscommunication and teams whose members did not always get along. The teacher dealt with this by explaining that all friends are equal and that everyone has strengths and weaknesses. Table 3 shows these findings.

Table 3. Summary of interview findings with the classroom teacher and the principal

Research focus	Interview findings
Planning and implementation	The teacher prepared the equipment and the place for the activity. The children waited in an orderly way while the teacher divided them into balanced groups.
Agility	The kindergarten children were agile. They used feinting runs to get to the finish without being tagged by the opposing team.
Balance	The activity helped the children balance what they were thinking with what they were about to do.

Research focus	Interview findings
Coordination	The game required good coordination with teammates so that no miscommunication occurred.
Supporting factors	Friends who were not playing cheered on those who were. The teacher also always gave a reward, a snack, when children reached the finish.
Inhibiting factors and solutions	The main obstacles were miscommunication and member selection that sometimes did not match among friends. The teacher therefore helped the children understand that all friends are equal and that each has strengths and weaknesses.

DISCUSSION

Preparation and Orderly Play as Stimulation

The teacher's preparation fits what the literature says about stimulation: children benefit when adults deliberately set up rich, playful experiences that match their level (Pikhart et al., 2024; Rahmadani et al., 2017). Before the game, the equipment and the place were ready, and the court in Figure 1 made the rules visible, with start and finish lines, a marked length, and position markers (Table 2). A young child does not have to be told where to run or where the game ends, because the ground says so.

Orderliness matters too. In the interviews, the children waited in an orderly way while the teacher formed balanced groups. Waiting for a turn is a small thing, but it gives children practice in self-control, and balanced groups make the game fair enough that children keep wanting to play. Ramadhan et al. (2022) stress that stimulation should happen in a pleasant, joyful atmosphere between teachers and children, and a game that feels fair is much more likely to feel that way.

The court itself is also worth noting. It was drawn on the ground rather than bought, which shows that useful stimulation does not need expensive equipment. For a village kindergarten with a small budget, that is an encouraging point.

Agility: Feinting as a Locomotor Skill

The informants' description of children using feinting runs to reach the finish without being tagged is a good picture of agility. In Bikalawan et al. (2024) terms, running and dodging are locomotor skills, and a feint adds a quick change of direction on top of the run. The child has to speed up, slow down, and switch course while an opponent is trying to touch them. That puts real demands on the large muscle groups, which is what gross motor skills are about (Innes et al., 2023).

Feinting also shows that the children were not just running; they were reading their opponents. Agility in this game is partly perception and decision-making, not only muscle. Bhatia et al. (2015) notes that running and similar actions become more coordinated over early childhood, and a game that keeps asking for quick changes of direction gives children plenty of practice. Because Groups A and B differ in age, the same court asks different things of them, and Mardiana et al. (2025) remind us that the effects of physical activity are tied up with growth and maturation. This supports the decision to adjust the game to the children's age and condition.

Balance Between Thinking and Doing

The informants described balance in a way that goes beyond standing steadily: the activity helped children balance what they were thinking with what they were about to do. This reading differs from the usual physical definition of balance, but it makes sense for this game. A child has to decide quickly whether to go, wait, or change direction, and then make the body follow without

falling or stepping out of the line. In Blodgett et al. (2022) terms, stopping and holding a position call on stability, so the physical side of balance is still there.

The thinking side connects to Piaget's view of play as a way for children to practise and consolidate what they know (Waite-Stupiansky, 2018). In *Gobak Sodor* a child's plan is tested right away: if the plan and the movement do not match, the child gets touched. That quick feedback ties thought and action closely together, and it fits the broader point that motor and cognitive development support each other (Saputra, 2025). This finding should be read with care, however, because it reflects the informants' interpretation of balance and was not measured directly.

Coordination and Teamwork

Coordination in this game is not only about the body. The informants said the game required good coordination with teammates so that no miscommunication occurred. Attackers have to move together or in an agreed order, and guards have to cover their lines without leaving gaps. Children therefore coordinate their own movements and also coordinate with one another.

From a social-constructivist view, learning happens through social interaction and guided participation (Hosokawa et al., 2024). The teacher's instructions and demonstration before play work as scaffolding, helping children join a game they could not organise alone, and teammates then become a source of support as well. Chang & Yen (2026) describe physical activity play as a distinct kind of play that supports both physical development and social competence, which helps explain why one game can train movement and cooperation at the same time.

Piaget's account adds that rules are part of what children practice (Waite-Stupiansky, 2018). Keeping to the rules, taking turns, and agreeing on a plan with teammates are skills that matter in later school life. For Group B children, who are close to starting primary school, that experience is especially useful.

Encouragement and Rewards as Supporting Factors

Two supports stood out in the interviews: classmates who were not playing cheered for those who were, and the teacher always gave a small snack when children reached the finish. The cheering kept everyone involved even while they waited, so waiting did not turn into boredom, and it made reaching the finish a shared moment. This matches Nijhof et al. (2018) point that play benefits children's physical, social, and emotional development most when it happens in a supportive environment with caring adults.

The snack worked as an outside motivator, and it probably helped the children keep trying. There is a caution, though. If rewards become the main reason to play, children may start caring more about the snack than about the game. Teachers can reduce that risk by adding praise and by celebrating effort as well as arriving first, so that the pleasure of the game itself stays at the centre.

Miscommunication, Group Composition, and the Teacher's Response

The obstacles were mostly social rather than physical. Miscommunication happened, and the choice of team members sometimes did not work well among friends. Because *Gobak Sodor* depends on teamwork, a team that cannot talk to each other or does not get along loses more than a few points; it loses the coordination the game is meant to build.

The teacher's answer was to explain that all friends are equal and that everyone has strengths and weaknesses. This is a simple but sensible way of guiding children's social behaviour. It treats the problem as something to learn from, and it matches Vygotsky's idea of adult guidance within the zone of proximal development (Kozulin, 2015). It also shows how the game can support social and emotional learning alongside motor skills (Rusdiani et al., 2025).

Teachers could go a step further by rotating team members or letting children take turns choosing roles, so that different children work together over time.

Comparison with Previous Studies

Earlier studies mostly report that *Gobak Sodor*, in modified or developed form, improves the gross motor skills of children aged 5–6 (Hasanah & Kuswanto, 2025; Rahmadani et al., 2017; Utami & Widyasari, 2023). This study did not test effectiveness, so it cannot say how much the children improved. What it adds is a view from inside the school: how a teacher prepares and runs the game, what children do during it, and what supports or obstructs it.

Studies that profile children's gross motor abilities in kindergartens (Bhatia et al., 2015; Rahayu et al., 2022) show why this context matters, since children's abilities and school facilities differ from place to place. Details such as cheering classmates, small rewards, and a teacher who steps in when friends disagree are rarely reported in effectiveness studies, yet they probably affect whether a game works in practice.

Local Wisdom and Practical Implications

Traditional games are a useful resource for developing young children's physical-motor abilities (Chang & Yen, 2026), and *Gobak Sodor* also carries cultural value that a school can pass on to children who grow up with modern games. The school could include it in its school operational curriculum (KOSP) as a locally rooted activity. This also fits the national early childhood standards, which treat physical-motor development as an aspect to be stimulated.

For teachers, the practical lessons are simple. Mark the court clearly, check the surface, and match the court length and the number of players to the age group. Explain and demonstrate the game, divide the children into balanced groups, and ask those who are waiting to cheer for those who are playing. Keep rewards small, and step in when disagreements arise. A session can run in three phases: a short explanation and demonstration, play in small teams, and a brief talk afterwards about what the children did.

As Figure 1 shows, lines, labels, and simple markers drawn on the ground are enough to give children a clear task. Teachers can then adjust the difficulty by changing the length of the court and the number of guards and attackers, so that Group A and Group B each face a suitable challenge.

Limitations

This is a single-site case study, so the findings cannot be generalised statistically; whether they apply elsewhere depends on how similar other settings are. The photograph shows the activity at one moment and cannot show how children's skills change over time, and the interview findings reflect what the informants said rather than measured performance. Triangulation across observation, interviews, and documentation, together with persistent observation, was used to reduce these limits.

CONCLUSION

This study looked at how the traditional game *Gobak Sodor* was planned and carried out to stimulate gross motor skills at TK Dharma Wanita 2 Temon. The teacher prepared the equipment and the court beforehand, and the children waited in an orderly way and were divided into balanced groups. During play the children showed agility by feinting and dodging to reach the finish without being tagged, the game asked them to match their thinking with their actions, and it required close coordination with teammates. Classmates who cheered and small snack rewards from the teacher supported the activity, while miscommunication and poorly matched teams were the main obstacles. The teacher dealt with them by reminding the children that everyone is equal and has strengths and weaknesses. Read through stimulation theory, motor

development theory, and the social-constructivist view of play, these findings suggest that *Gobak Sodor* is a low-cost, enjoyable, and cooperative way to stimulate gross motor skills in early childhood while keeping local wisdom alive.

RECOMMENDATION

Teachers are encouraged to prepare a clearly marked court that suits the age group, check that the surface is safe, and give instructions and a demonstration before play. They can form balanced groups, ask the children who are waiting to cheer, and keep rewards small. The school may consider adding *Gobak Sodor* to its locally based curriculum. Future studies could follow the children over a longer period, include parents as informants, and combine qualitative description with measured gross motor outcomes, such as pretest–posttest scores.

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