Student Participation in Small-Sided Games during Elementary Physical Education: A Qualitative Descriptive Study

Sejahtra
Elementary School Teacher Education, Universitas Quality, Medan, Indonesia
Email: sejahtra021@gmail.com

Unequal participation remains a practical problem in elementary physical education because conventional team games often allow confident students to dominate play while less-confident students remain peripheral. This study aimed to describe how student participation developed during small-sided games and to identify the task, peer, and teacher conditions that supported or constrained involvement. A qualitative descriptive design was implemented at SD Budi Murni 2 with 24 Grade V students and one physical education teacher. Data were obtained from four learning sessions, comprising 96 student-session observation records, chronological field notes, semi-structured interviews with eight students and the teacher, and learning documentation. Credibility was strengthened through source, technique, and time triangulation, member checking, and peer examination. The findings showed that students demonstrating consistent or highly sustained participation increased from 62.5% in the first session to 91.7% in the fourth session, while mean ball contacts rose from 9.33 to 13.67. Participation broadened most when three-versus-three formats were combined with explicit roles, compulsory team involvement, multiple targets, short rotations, and supportive peer communication. Nevertheless, smaller teams did not automatically eliminate dominance or fear of mistakes. The study concludes that small-sided games function as an inclusive pedagogical environment only when teachers deliberately regulate roles, rules, peer interaction, and emotional safety.

Keywords: small-sided games, student participation, physical education, elementary school, qualitative descriptive research.

Corresponding Author:
Sejahtra
Elementary School Teacher Education, Universitas Quality
Medan, Indonesia
sejahtra021@gmail.com

1. Introduction

Physical education in elementary schools is expected to provide every child with opportunities to move, cooperate, make decisions, and develop confidence in active settings. In practice, participation during team-game lessons is frequently uneven. A limited group of confident or skilled students may control the ball and determine the direction of play, while quieter students wait, remain near the boundary, or participate only when directly instructed. Such patterns are especially visible when large classes must share restricted space, equipment, and lesson time. Consequently, physical presence in the playing area does not always represent meaningful participation.

Unequal involvement is educationally important because repeated peripheral experiences can reinforce fear of mistakes, low perceived competence, and dependence on dominant classmates. Conventional full-team games may intensify these problems through long waiting periods, complex rules, crowded movement, and public comparison. Children who are unsure about where to move or how peers will react to an error may deliberately avoid receiving the ball. Research on physical education engagement also indicates that students may appear active while remaining emotionally hesitant, cognitively uncertain, or socially excluded [5], [6]. Participation must therefore be examined through behavior, interaction, emotional response, decision-making, and student initiative rather than through attendance alone.

Small-sided games offer a practical alternative because the number of players, playing area, targets, rules, and duration can be modified to increase each student's access to meaningful game situations [1], [2]. Studies have associated these formats with more frequent involvement, physical activity, motivation, and enjoyment [3], [4]. Nevertheless, reducing team size does not necessarily guarantee equal participation. Dominant players may continue to monopolize possession, less-confident students may still fear mistakes, and poorly designed constraints may create confusion rather than inclusion. The present study therefore focuses on how participation actually develops when small-sided games are implemented in an elementary-school context.

This study was conducted at SD Budi Murni 2 and examined participation across four small-sided-game sessions. It aimed to describe the forms of student participation that emerged, identify factors that encouraged or inhibited involvement, and explain how team size, task constraints, peer interaction, and teacher mediation shaped students' experiences. The guiding question was: How is student participation constructed and experienced during small-sided games in elementary physical education?

2. Literature Review and Problem Statement

Small-sided games are modified forms of team games played with fewer participants and adjusted spaces, rules, targets, or durations. Their educational rationale is grounded in the assumption that task constraints can redistribute action opportunities and increase decision-making within authentic game situations. A systematic review found that reducing player numbers and pitch dimensions generally increases involvement and supports sport learning among young participants [1]. More recent physical education research reported improvements in motor ability when small-sided games were integrated into lessons [2], while modified rugby games offered children more opportunities for physical activity and enjoyment than traditional formats [3]. Motivation and willingness to participate may also improve when students receive more frequent access to the ball and clearer responsibility within the team [4]. However, enjoyment and technical involvement vary according to individual characteristics, game structure, behavioral support, and the way constraints are organized [11]-[14].

Participation is broader than the quantity of movement or ball contacts. Engagement in physical education encompasses behavioral, emotional, cognitive, and agentic dimensions [5], [6]. Children participate meaningfully when they persist, communicate, understand the task, experience emotional safety, and contribute ideas or decisions. Studies of primary physical education show that student voice, collaboration, and shared ownership strengthen meaningful experiences [7], [8], whereas embarrassment, public comparison, and fear of peer judgment can discourage participation [9]. Teacher support is likewise associated with behavioral and emotional engagement [10], and reflective use of student voice can help teachers adapt tasks to children's actual experiences [15]. These perspectives imply that small-sided games should be evaluated as social and pedagogical environments, not merely as condensed sport drills.

The literature nevertheless remains divided. Most small-sided-game studies quantify physiological demand, motor performance, technical actions, motivation, or enjoyment, whereas qualitative studies in primary physical education tend to examine student voice, meaningfulness, or reluctance at a broader level. Limited evidence explains how smaller game formats redistribute participation among individual elementary students, why some children enter play while others remain peripheral, and how rules, roles, peer behavior, and teacher interventions interact over successive lessons. The problem addressed in this study is therefore the lack of contextual qualitative evidence concerning the process through which small-sided games support or constrain multidimensional student participation.

3. Method

This study used a qualitative descriptive design to provide a contextual account of student participation rather than to test causal effectiveness. It was conducted at SD Budi Murni 2 with one Grade V class comprising 24 students aged 10-11 years and one physical education teacher. All students were included in classroom observations. Eight students were selected purposively for interviews through maximum-variation considerations representing high, moderate, and low initial participation, different interaction patterns, and both genders. The teacher was included as a key informant because the teacher designed the activities and responded directly to emerging participation patterns.

Data were collected during four regular physical education sessions held on May 4, 7, 11, and 14, 2026. The learning sequence consisted of a 4v4 possession game, a 3v3 end-zone game, a 4v4 target-gate game, and a 3v3 rotation tournament. The teacher progressively modified player numbers, playing space, scoring conditions, role assignments, touch restrictions, targets, and rotation duration. These modifications were treated as natural pedagogical decisions rather than standardized experimental treatments. The observation dataset comprised 96 student-session records and focused on participation level, purposeful movement, ball contacts, successful actions, verbal contributions, peer-support events, disengagement episodes, and contextual field notes.

Data collection combined structured observation, chronological field notes, semi-structured interviews, and documentation. Student interviews explored perceived opportunities, emotions after success or error, peer influence, helpful rules, withdrawal, changes across sessions, and recommendations for the teacher. The teacher interview examined participation patterns, effective interventions, remaining barriers, peer dynamics, and future refinement. Source triangulation compared student, teacher, and observational perspectives; technique triangulation compared observations, interviews, field notes, and documentation; and time triangulation compared patterns across the four sessions. Member checking with the teacher and selected students and peer examination of coding decisions were used to strengthen credibility.

Analysis proceeded through repeated reading, data condensation, coding, data display, comparison, and conclusion drawing. Initial codes addressed behavioral, social, emotional, cognitive, and agentic participation, while inductive codes captured patterns such as dominant possession, fear of mistakes, role clarity, peer invitation, rapid re-entry, and rule confusion. Codes were grouped into categories and themes, and contradictory cases were retained to avoid presenting small-sided games as uniformly successful. Simple counts, means, and proportions were calculated from the structured observation records as descriptive case displays to support pattern recognition and comparison across the four sessions. They were not treated as outcome variables for hypothesis testing, population estimation, or causal inference; their meaning was established through convergence with field notes, interview accounts, and documentation. School permission was obtained, participant identities were replaced with codes, and the data were used only for research purposes.

4. Results and Discussion

The findings show a progressive broadening of participation across the four sessions, but the change was produced by the interaction of team size, role clarity, task constraints, peer behavior, and teacher mediation rather than by smaller teams alone. In the first 4v4 possession game, 15 students (62.5%) demonstrated consistent or highly sustained participation. By the 3v3 rotation tournament, the number had increased to 22 students (91.7%). Mean participation level rose from 2.75 to 3.38, mean ball contacts from 9.33 to 13.67, and mean successful actions from 5.92 to 9.42. Constructive verbal contributions increased from 2.75 to

3.63 per student, peer-support events from 1.04 to 1.96, and disengagement declined from 0.83 to 0.46 episodes. Table 1 summarizes the main descriptive pattern.

The numerical summaries in Table 1 should therefore be read as descriptive supports for the qualitative interpretation rather than as stand-alone evidence of effectiveness. Means, frequencies, and participation percentages helped make temporal patterns visible, identify students and episodes requiring closer qualitative examination, and check whether observational tendencies converged with interview and field-note accounts. For example, the rise in ball contacts was interpreted as broader participation only because students also described less waiting and clearer responsibilities, while the remaining hesitation of S09 and S14 showed that more contacts did not necessarily indicate emotional confidence. No p-values, effect estimates, population parameters, or causal claims were derived from these figures; all numerical values refer only to the 24 students and four observed sessions. In this way, the numerical displays enhance transparency and analytic traceability while the themes remain the primary basis of explanation.

Table 1. Descriptive development of student participation across four sessions

Session	Game format	Mean participation	Mean ball contacts	Mean successful actions	Levels 3-4, n (%)
OBS01	4v4 possession	2.75	9.33	5.92	15 (62.5)
OBS02	3v3 end-zone	3.08	10.88	7.17	19 (79.2)
OBS03	4v4 target-gate	3.17	11.25	7.29	20 (83.3)
OBS04	3v3 rotation	3.38	13.67	9.42	22 (91.7)

The first session demonstrated that a game could appear active at class level while participation remained unequally distributed. Field notes showed that S01, S11, S12, and S23 controlled many possession sequences, whereas S05, S09, S14, S19, and S22 remained near the boundaries. When the teacher required every team member to touch the ball before a point could be scored, quieter students received more passes; when the reminder stopped, dominant patterns returned. This supports the proposition that small-sided formats expand possible action opportunities [1], [2], but challenges any assumption that the format is inherently inclusive. Opportunity must be protected through rules that interrupt monopolization and make each learner's contribution necessary.

The clearest redistribution occurred in the 3v3 formats. Students reported less waiting, more space, and greater visibility of teammates. S07 explained that he touched the ball more often because only three students were on the team, while S15 stated that he could no longer remain hidden behind more active classmates. These accounts align with evidence that modified games increase involvement and enjoyment [3], [4]. However, the present data add an important qualification: the benefit of 3v3 emerged most strongly when the smaller format was combined with explicit restart, receiver, support, or defensive roles. The teacher's view that 3v3 made passive behavior easier to identify indicates that reduced team size improved both student access and teacher diagnostic visibility.

The change was most meaningful among students initially classified as having low participation. In OBS01, students in the high-participation group averaged 14.38 ball contacts, compared with only 2.40 among the low-participation group. By OBS04, the averages were 17.38 and 10.40, respectively. The same narrowing appeared in successful actions, which changed from 10.75 versus 0.80 in the first session to 13.13 versus 6.00 in the final session. S05 moved from participation level 1 to level 3, S19 from level 1 to level 3, and S22 from level 1 to level 3. Their ball contacts increased from 4 to 11, 1 to 13, and 3 to 14, respectively.

These trajectories show that the sequence did more than intensify already-active students; it created additional entry points for students who had previously occupied marginal positions.

Role clarity was central to these changes. S19's participation increased after he became the first receiver during restarts and later defended a specific target gate. He explained that general prompts such as "move more" were less useful than knowing exactly where to stand and what responsibility to perform. The four-gate game similarly allowed S14 to contribute from a less congested position, while a two-touch restriction reduced S11's repeated individual control. These findings support constraints-based explanations of small-sided games [1], [11], [12], but extend them pedagogically: task constraints did not merely shape technical behavior; they legitimized participation for students who were uncertain whether the team needed them. An inclusive constraint therefore has both a tactical and a social function.

Peer interaction determined whether structural opportunities became emotionally usable opportunities. S02 repeatedly called quieter students by name, moved closer, and offered manageable passes. S05 associated her increased participation with this specific support. S09, by contrast, withdrew after misplaced passes and participated less when teammates reacted impatiently. He returned more quickly when peers reassured him that mistakes were acceptable. These patterns are consistent with research positioning engagement as behavioral, emotional, cognitive, and agentic [5], [6] and with evidence that teacher support and social climate influence participation [9], [10]. The data nevertheless indicate that teacher support alone was insufficient: a well-designed game could still exclude a student if peer reactions made risk-taking socially unsafe.

Short rotations functioned as emotional resets. The three-minute tournament rounds created repeated beginnings, changing opponents, and frequent opportunities to recover after errors. S05 described each round as a new start, and S15 linked short cycles with sustained focus. S09 still showed anxiety in the final session, but re-entered play more rapidly than in the first lesson. This interpretation is compatible with research showing that game structure influences enjoyment and willingness to continue [13], [14]. The present findings clarify the mechanism: shorter cycles reduced the duration of public failure and prevented one mistake from defining the remainder of a lesson. Thus, rotation frequency was not merely an organizational convenience; it was an emotional participation support.

Participation nevertheless remained incomplete for some students. S09 and S14 finished at participation level 2 despite greater access to the ball. Smaller teams increased their visibility, but this visibility could also intensify anxiety because fewer teammates were available to conceal hesitation. This result supports qualitative evidence that children may withdraw because of embarrassment, observation by others, and fear of public comparison [9]. It also warns against interpreting more touches as an automatically positive experience. A student can receive the ball more often while simultaneously feeling greater pressure. Inclusive practice must therefore pace exposure, pair hesitant students with patient peers, and normalize errors before demanding more central roles.

Competition had a similarly ambivalent effect. The rotation tournament generated anticipation, communication, and a strong preference to repeat the activity, yet two teams disputed a boundary decision and required teacher regulation. The final session's mean disengagement remained lower than in the first two sessions but rose slightly from 0.29 in OBS03 to 0.46 in OBS04. Competition therefore energized participation while also risking louder dominance and social pressure. Rather than removing competition, teachers should align scoring with educational priorities, for example by rewarding role rotation, cooperation, or the involvement of all players. This approach is consistent with student-voice research showing that children's perspectives can improve task design [7], [8], [15].

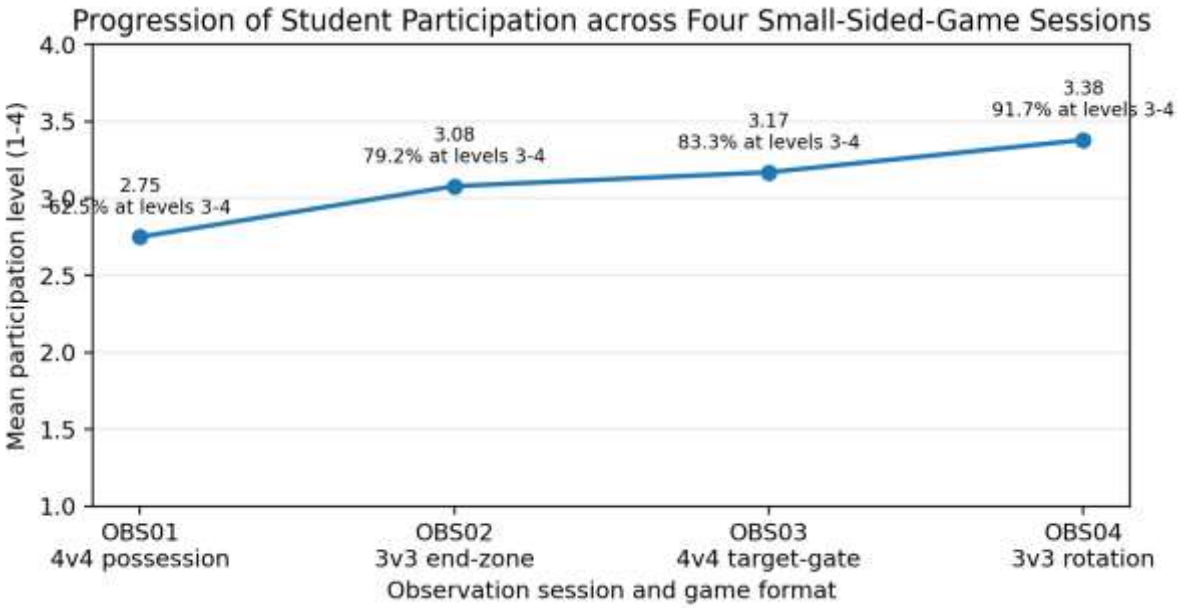

Fig. 1. Progression of mean participation and the proportion of students at levels 3-4

Table 2. Themes developed through triangulation of observations and interviews

Theme	Triangulated evidence	Interpretive meaning
Smaller teams expanded access	More students reached levels 3-4; students reported less waiting and more turns in 3v3.	Reduced team size increased access but did not independently guarantee equality.
Clear roles legitimized involvement	S19 entered play after restart and gate-defending roles; hesitant students preferred specific duties.	Role clarity reduced uncertainty and made quieter students necessary to team play.
Constraints redistributed possession	Compulsory touches, multiple gates, and a two-touch limit weakened dominant possession.	Inclusive rules must be simple, visible, and consistently reinforced.
Peer support created emotional safety	Name-calling, short passes, reassurance, and patience encouraged re-entry after mistakes.	Participation was relational and depended on how peers responded to risk and failure.
Short rotations created repeated entry points	Students recovered faster after errors and described each round as a new beginning.	Short cycles limited the lasting emotional effect of unsuccessful actions.
Inequality persisted	Dominant students retained more contacts, while S09 and S14 remained hesitant.	Small-sided games narrowed participation gaps without eliminating them.

Table 2 demonstrates that the themes were not independent. Smaller teams exposed participation patterns; role assignments gave hesitant students a legitimate place; constraints redistributed possession; peer support made involvement emotionally safer; and short rotations enabled rapid recovery. The theoretical contribution is therefore not that small-sided games simply increase activity. Rather, they operate as configurable participation environments in which individual, task, and social conditions interact. This argument reconciles outcome-oriented small-sided-game research [1]-[4], [11]-[14] with qualitative work on meaningfulness, student voice, and reluctance [7]-[9], [15]. The same game can be inclusive for one student and pressuring for another, depending on role clarity, peer response, and perceived competence.

The transferability of these findings depends on the similarity between other settings and the conditions of SD Budi Murni 2. The study involved one Grade V class of 24 students aged 10-11 years, one physical education teacher, and four regular lessons in which the teacher could organize 3v3 and 4v4 groups, mark multiple targets, assign roles, and supervise short rotations. These characteristics make the design most relevant to elementary classes of comparable size where basic space and equipment can be reorganized flexibly and where the teacher can closely observe peer interaction and adjust rules during play. Transfer may be more difficult in substantially larger or more heterogeneous classes, settings with very restricted playing areas or insufficient equipment, and groups containing learners whose motor, communication, sensory, behavioral, or emotional needs require more individualized support. In such contexts, the design should be adapted through additional stations, smaller or safer zones, modified equipment, longer familiarization, differentiated roles, peer-support preparation, or assistance from another adult. The findings should therefore be transferred as context-sensitive design principles—protected access, clear responsibility, manageable rotations, supportive peer norms, and active teacher mediation—rather than reproduced as a fixed four-session protocol.

For elementary teachers and PGSD lecturers, the practical implication is that small-sided games should be taught as pedagogical design rather than as reduced versions of adult sport. Teachers need to monitor who receives the ball, who remains outside central space, who dominates communication, who withdraws after errors, and who contributes without being recognized. Initial 3v3 tasks should provide clear roles, brief demonstrations, short rounds, multiple targets, cooperation-oriented scoring, and deliberate pairing of hesitant students with supportive peers. Such decisions preserve the excitement of games while making participation more equitable, meaningful, and observable.

5. Conclusion

The study concludes that small-sided games supported broader, more sustained, and more meaningful student participation in elementary physical education at SD Budi Murni 2, particularly when smaller teams were combined with explicit roles, short rotations, modified scoring rules, multiple targets, supportive peers, and continuous teacher mediation. Participation developed not only through increased movement and ball contact but also through cooperation, communication, emotional confidence, decision-making, and student initiative. Initially hesitant students became more involved when they received recognizable responsibilities and repeated opportunities to re-enter play after mistakes. However, smaller teams did not automatically remove dominant behavior or fear of peer judgment, as several students remained anxious despite greater access to game actions. The pedagogical value of small-sided games therefore lies in their configurability: teachers must deliberately regulate roles, constraints, competition, peer interaction, and emotional safety so that every student has a legitimate and meaningful place in the learning process. The findings are context-specific to one class and four sessions, and future research should examine longer implementation periods and different elementary-school settings.

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