

Exploring Teachers' and First-grade Students' Perceptions of a Game Friendly School Project in a Primary School Context

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Abstract: Games and play-based learning environments are increasingly recognised as valuable for supporting student engagement, social interaction, and positive school experiences. However, fewer studies have examined how school-wide game-friendly initiatives are experienced in early primary school contexts. This qualitative case study explored teachers' and students' perceptions of the Game Friendly School (GFS) project implemented in a private K–12 school in Türkiye. The project had been in place for approximately one year and included game-friendly arrangements in corridors and outdoor areas, such as wall games, mini basketball hoops, tic-tac-toe, table football, board games, floor tracks, playground markings, sports areas, and recycled-material goals. Data were collected from five first-grade teachers through an open-ended questionnaire and from 98 first-grade students through drawings and short written narratives. Teacher responses were analysed through thematic analysis, while student artefacts were analysed through content analysis. The findings suggest that the GFS project was perceived as supporting enjoyment, peer interaction, collaboration, and a positive school atmosphere. Teachers also highlighted age-appropriate design and safety considerations. Student drawings and narratives reflected play, friendship, movement, and happiness at school. The study offers contextual insight into how a school-wide game-friendly environment was experienced in one primary school setting.

Keywords: Game friendly school, Game-based learning, Primary education, Student perceptions, Teacher perceptions, School environment

1. Introduction

Games and play-based activities have increasingly been discussed as meaningful components of contemporary learning environments, particularly because they can support student engagement, social interaction, collaboration, and active participation (Li & Tsai, 2013; Lamb et al., 2018; Hartt et al., 2020; Adipat et al., 2021). In primary school contexts, play is not only a recreational activity but also a social and developmental experience through which children interact with peers, follow rules, negotiate roles, and make sense of the school environment. While much of the game-based learning literature has focused on digital games or classroom-based instructional activities, less attention has been given to school-wide game-friendly environments that integrate physical, social, and informal play opportunities into corridors, playgrounds, and shared school spaces. This study addresses this gap by examining how one Game Friendly School project was perceived and represented by first-grade teachers and students.

Within this broader context, the Game Friendly School project examined in this study refers to a school-based initiative that aims to increase children's access to play opportunities across different parts of the school environment. Rather than focusing only on digital games or classroom-based game activities, the project integrates physical, social, and informal play opportunities into shared school spaces such as corridors, playgrounds, and outdoor activity areas. In the case examined in this study, these arrangements included wall games, mini basketball hoops, tic-tac-toe games, table football, board games, floor tracks, playground markings, sports areas, traditional outdoor games, and recycled-material play equipment. From a research perspective, this setting provides an opportunity to examine how a school-wide game-friendly environment is perceived by teachers and represented by young students, particularly in relation to enjoyment, peer interaction, collaboration, age-appropriateness, and safety.

The study is also informed by research that positions game-based and play-based learning as socially situated and experience-oriented. Prior studies have associated game-based learning with engagement, motivation, collaboration, and social interaction (Pivec, 2009; Li & Tsai, 2013; Hartt et al., 2020; Adipat et al., 2021). In addition, physical and embodied forms of play are relevant for school contexts because they allow children to move, interact, and participate in shared activities within the everyday environment of the school (Dyson et al., 2004; Ratey & Hagerman, 2008; Murray & Murray, 2022; Zhu et al., 2023). However, these potential contributions should be examined carefully in relation to the specific context in which play opportunities are designed and implemented.

Therefore, this study does not aim to measure the effectiveness of the Game Friendly School project in terms of academic achievement or developmental outcomes. Instead, it explores how first-grade teachers and students

perceived and represented the implementation of the project in one primary school setting. More specifically, the study focuses on teachers' views regarding the perceived strengths, challenges, and practical considerations of the project, as well as students' visual and written representations of their experiences through drawings and short narratives. Accordingly, the following research questions guided the study:

RQ1. How do first-grade teachers perceive the implementation, strengths, and challenges of the Game Friendly School project?

RQ2. How do first-grade students represent and describe their experiences of the Game Friendly School project through drawings and short narratives?

2. Literature Review

2.1 Game-based Learning, Engagement, and Social Interaction

Game-based learning (GBL) is generally understood as an approach that uses game elements, game activities, or game structures to support learning processes and learner participation. Previous research has associated GBL with increased student engagement, motivation, active participation, and more interactive learning experiences (Li & Tsai, 2013; Pivec, 2009; Hartt et al., 2020). In their review of game-based learning in science education, Li and Tsai (2013) highlight the potential of games to create more engaging and learner-centred environments. Similarly, studies on educational games and simulations suggest that game-based approaches may support cognitive, affective, and social dimensions of learning when they are meaningfully aligned with educational contexts and learner needs (Lamb et al., 2018).

Beyond individual engagement, games are also relevant because they create opportunities for peer interaction, communication, collaboration, and shared problem-solving. Adipat et al. (2021) emphasise that game-based learning can engage students in the learning process by encouraging active participation and interaction. This social dimension is particularly important in primary school contexts, where children's learning experiences are closely connected with play, peer relationships, rule-following, and shared activity. However, the literature also suggests that the value of games depends on how they are designed, facilitated, and integrated into the learning environment. Therefore, games should not be treated as automatically effective, but rather as educational and social opportunities whose perceived contributions need to be examined in context.

2.2 Physical and Embodied Play in School Environments

Although much of the game-based learning literature focuses on digital games or classroom-based instructional activities, play in school environments also includes physical, embodied, and informal forms of participation. Physical play allows children to move, interact with peers, use shared spaces, and participate in activities that combine social and bodily engagement. Research on sport education, tactical games, and cooperative learning has shown that physical and game-like activities can support cooperation, teamwork, and social learning when structured meaningfully (Dyson et al., 2004). In addition, physical activity and playful movement have been linked to attention, well-being, and learning readiness, suggesting that movement-based play can be relevant to the broader conditions that support children's school experiences (Ratey & Hagerman, 2008).

This perspective is also connected with embodied and hands-on approaches to learning. Murray and Murray (2022) highlight the value of hands-on strategies for supporting learners, while Zhu et al. (2023) discuss how children's thinking and learning can be supported through embodied and spatial forms of engagement. These studies provide a useful basis for examining school spaces not only as places where formal instruction occurs, but also as environments where children encounter opportunities for movement, play, communication, and social participation. In the context of the Game Friendly School project, this is particularly relevant because the project does not focus only on classroom-based games; it also involves corridors, playgrounds, wall games, floor tracks, sports areas, and informal play spaces. Therefore, the present study approaches the GFS project as a school-wide play environment rather than as a single instructional intervention.

2.3 Teachers' Perspectives and Implementation Considerations

Teachers play an important role in how game-based or play-based practices are interpreted, facilitated, and sustained in educational settings. The integration of games into learning environments often requires teachers to move beyond traditional instructional roles and to support interaction, collaboration, and student participation (Jääskä & Aaltonen, 2022). Bond (2020) also highlights the importance of learning environments that facilitate student engagement, while Adipat et al. (2021) emphasise the role of game-based learning in

encouraging students' active involvement. In this sense, teachers' perceptions are important because they provide insight into how game-friendly practices are experienced in daily school routines.

At the same time, implementation is not only a matter of adding games to the school environment. Teachers may also notice practical and pedagogical issues such as age-appropriateness, safety, material selection, supervision, accessibility, and the suitability of games for different developmental levels. Schabas (2023) notes that teachers may face challenges when attempting to practise game-based learning in classrooms, especially when pedagogical expectations, classroom realities, and implementation conditions do not fully align. For this reason, examining teachers' perspectives can reveal both perceived strengths and practical challenges of game-friendly school arrangements.

Taken together, the literature suggests that games and game-based environments may support engagement, social interaction, collaboration, and positive school experiences. However, these potential contributions should be examined carefully within the specific context in which games are implemented. This study therefore uses the literature as a conceptual lens for interpreting teachers' and students' perceptions, rather than as a basis for making causal claims about effectiveness. By focusing on one primary school context, the study seeks to contribute to the discussion of how school-wide game-friendly environments are perceived, represented, and practically experienced by teachers and young learners.

3. Research Method

3.1 Research Design

This study employed a qualitative case study design to explore how the Game Friendly School (GFS) project was perceived and represented in one primary school context. A case study design was considered appropriate because the study focused on a bounded case: the implementation of the GFS project in a private K–12 school, with particular attention to first-grade teachers and students. Case study research enables an in-depth and contextualised examination of educational practices within real-life settings, especially when the aim is to understand participants' experiences, perceptions, and interpretations rather than to measure causal effects (Cronin, 2014; Denham, 2019; Thomas, 2021; Yin, 2017). In line with this design, the study did not aim to evaluate the effectiveness of the project through academic achievement scores or developmental measurements. Instead, it aimed to generate contextual qualitative insight into teachers' perceptions and students' visual and written representations of a school-wide game-friendly environment.

3.2 Research Context and Game Setup

The study was conducted in a private K–12 school in Türkiye that had been accredited under the Game Friendly School project. At the time of data collection, the project had been implemented in the school for approximately one year. The project involved the redesign and enrichment of indoor and outdoor school areas to provide students with more visible and accessible opportunities for structured and informal play during the school day.

In the indoor areas, several game-friendly arrangements were introduced in corridors and shared spaces. These included mini basketball hoops attached to columns, wall-based games, tic-tac-toe games, table football, board games, and additional seating and table areas where students could play during breaks. In the outdoor areas, playground markings and movement tracks were drawn on the ground. These included spaces for traditional games, including the Turkish game "yağ satarım bal satarım", corner games, football and basketball areas, and running or movement-based play. A playground area and goals made from recycled pipes were also added to support active outdoor play. These arrangements reflected the project's emphasis on integrating physical, social, and informal play opportunities into everyday school spaces rather than limiting game-based activities to classroom instruction. All the games were permanently installed.

3.3 Participants

The participants consisted of five first-grade teachers and 98 first-grade students from the same private K–12 school. The student group included 41 boys and 57 girls. First-grade teachers and students were selected because the game-friendly arrangements had been actively used by this age group, and the teachers were familiar with how students engaged with the play areas during daily school routines. The teachers had also been involved in the broader GFS process and were therefore able to comment on the perceived strengths, challenges, and practical considerations of the implementation.

3.4 Data Collection Tools and Procedure

Data were collected through two qualitative data sources: an open-ended teacher questionnaire and student drawings with short written narratives. The teacher questionnaire was administered through Google Forms and included one open-ended prompt: "Please write a paragraph about your positive/negative opinions, observations, and suggestions regarding the games implemented in the school as part of the Game Friendly School project." This question was designed to elicit teachers' reflections on the implementation process, perceived contributions, and areas requiring improvement.

To explore students' perspectives, each student was asked to create a drawing representing their perception of a Game Friendly School. Students were also asked to write a short narrative of approximately three to four words describing their feelings or thoughts about the game-friendly school environment. Examples of student narratives included expressions such as "I love school", "happy", "I am happy", "play school", "playing with friends", and "running in the garden". These visual and written artefacts were considered appropriate for first-grade students because they allowed young learners to express their experiences through age-appropriate forms of representation.

The data collection process took place over a two-week period. The researcher maintained communication with the school to coordinate the collection of teacher responses and student artefacts. All 98 student drawings and accompanying short narratives were included in the analysis.

3.5 Data Analysis

The teacher responses were analysed through thematic analysis. The analysis began with repeated reading of the responses to become familiar with the data. Initial codes were then generated by identifying recurring ideas, expressions, and practical concerns in the teachers' comments. These codes were grouped into broader themes that reflected the research questions, including enjoyment and positive school atmosphere, peer interaction and collaboration, rule-based play and meaningful recess time, age-appropriate design, and safety and material considerations. The themes were reviewed against the original responses to ensure that they remained closely connected to the data.

The student drawings and short narratives were analysed through content analysis. All 98 drawings were examined to identify recurring visual and textual elements. The analysis focused on repeated representations such as smiling children, sunny outdoor scenes, colourful school buildings, balls, playgrounds, running, movement, and playing with friends. The short narratives were also reviewed to identify common emotional and social meanings associated with the GFS project. The analysis of student artefacts therefore focused on how students visually and verbally represented their experiences of the game-friendly school environment. The iterative analysis process supported the development of categories that were grounded in the collected data and aligned with the research questions.

3.6 Ethical Considerations and Researcher Positionality

Participation in the study was voluntary. Teachers were informed about the purpose of the study and that their responses would be used only for academic research purposes. Written parental consent was obtained for all student participants before the collection of drawings and short written narratives. No identifiable personal information was collected from the students, and all teacher responses and student artefacts were anonymised during analysis and reporting. The study was conducted with attention to confidentiality, child protection, and the responsible use of participant data.

The researcher's role in the GFS project also requires consideration. As the researcher was professionally connected to the project, this position facilitated access to the school and communication with participants. At the same time, it may have created a risk of positive interpretation bias. To address this limitation, the analysis was kept closely connected to the data, direct examples from teacher responses and student narratives were used, and both positive perceptions and practical concerns, such as age-appropriateness and safety, were reported. This positionality is acknowledged as part of the interpretive nature of the qualitative case study design.

4. Results

This section presents the findings derived from the teacher questionnaire and student drawings with short written narratives. In line with the qualitative case study design, the findings are reported as perceived and represented experiences rather than as evidence of measurable effectiveness. The teacher responses provided

insight into how the GFS project was perceived in relation to enjoyment, peer interaction, communication, social development, age-appropriate design, and safety. The student drawings and narratives provided visual and written representations of how first-grade students associated the game-friendly school environment with play, friendship, movement, and positive feelings toward school.

4.1 Teacher Feedback via Questionnaire

The thematic analysis of teacher responses resulted in six main themes: enjoyment and positive school atmosphere, perceived support for communication and collaboration, perceived social development and peer relations, age-appropriate game design, safety and material considerations, and perceived developmental and emotional contributions. The teacher responses were originally collected in Turkish and translated into English by the researchers for reporting purposes. Table 1 presents the themes, codes, and example teacher statements.

Table 1: Themes and Codes Derived from Teacher Feedback on the GFS Project

Theme	Codes	Example Teacher Statements
Enjoyment and positive school atmosphere	Enjoyment, excitement, happiness, enjoyable time	"This project was really fun and exciting for the children." / "Seeing our students having fun was gratifying."
Perceived support for communication and collaboration	Communication, collaboration, teamwork, helping each other	"Their communication and collaboration skills were strengthened." / "While helping each other, they realised the importance of teamwork."
Perceived social development and peer relations	Social interaction, peer relationships, new friendships, rule-based play	"Students played rule-based games, waited for their turn, formed new friendships and continued them."
Age-appropriate game design	Age suitability, developmental appropriateness, simpler and safer games	"I think games suitable for the age group should be installed." / "For our first graders, simpler and safer games could be more beneficial."
Safety and material considerations	Safe placement, material selection, avoiding hazardous parts	"There are some points to be considered in the ring toss game." / "The apparatus should be mounted above the children's height because there are protruding metals that can be dangerous."
Perceived developmental and emotional contributions	Happiness, confidence, empathy, learning while having fun	"This increased our children's self-confidence and empathy towards others." / "Seeing them having a good time was a bit like the reward for all our efforts."

The first theme, enjoyment and positive school atmosphere, reflected teachers' perceptions that the GFS project made school breaks more enjoyable for students. Teachers described the project as "fun and exciting" and emphasised the pleasure of observing students having enjoyable experiences during the school day. In this study, this theme is interpreted as teachers' perception of a more positive school atmosphere rather than as a measured increase in engagement.

The second theme, perceived support for communication and collaboration, showed that teachers viewed the game-friendly arrangements as opportunities for students to play together, help one another, communicate, and collaborate during shared activities. These opportunities appeared to emerge not only through structured games but also through informal play in corridors, playgrounds, and shared spaces.

The third theme, perceived social development and peer relations, focused on social behaviours observed by teachers. Teachers referred to students waiting for their turn, following rules, developing friendships, and continuing peer interactions during recess. These observations suggest that game-friendly spaces were perceived as supporting social practice in early primary school routines.

The fourth and fifth themes introduced a more critical perspective on implementation. Teachers emphasised that games should be appropriate for students' developmental level and that younger children may need simpler and safer play arrangements. They also raised safety concerns related to the placement and material of play equipment. For example, one teacher noted that the ring toss apparatus should be mounted above children's height because of upward-facing metal parts, and that the materials used for throwing rings should be plastic. These comments show that game-friendly environments require careful attention to age-appropriateness, supervision, material safety, and the physical arrangement of play areas.

The final theme, perceived developmental and emotional contributions, included teachers' statements about students' happiness, confidence, empathy, and learning while having fun. These findings should be interpreted cautiously because the study did not directly measure developmental outcomes such as self-confidence,

empathy, or cognitive growth. Instead, the theme represents how teachers interpreted the possible emotional and developmental value of the GFS project based on their daily observations.

Overall, the teacher data suggest that the GFS project was perceived positively in relation to enjoyment, peer interaction, collaboration, and social participation. At the same time, the findings also highlight practical concerns related to age-appropriate design and safety. This combination of positive and critical themes is important because it presents the GFS project not as an automatically effective intervention, but as a contextual school-based implementation whose perceived value depends on design, use, supervision, and adaptation to students' developmental needs.

4.2 Student Drawings and Short Narratives

The content analysis of 98 student drawings and accompanying short narratives provided insight into how first-grade students represented their experiences of the GFS project. The analysis focused on repeated visual and textual elements across the drawings, including smiling children, sunny outdoor scenes, colourful school buildings, balls, playgrounds, running, movement, and children playing with friends. The short narratives included expressions such as "I love school", "happy", "I am happy", "play school", "playing with friends", and "running in the garden".

Table 2: Key Themes Derived from Student Drawings and Short Narratives

Theme	Visual or Textual Indicators	Example Narratives
Happiness and positive emotions	Smiling faces, sunny scenes, colourful images	"Happy", "I am happy", "I love school"
Friendship and playing together	Children playing in groups, peer interaction, shared games	"Playing with friends"
Movement and outdoor play	Running, balls, playgrounds, outdoor play areas	"Running in the garden"
Positive representations of school	Colourful school buildings, schoolyard scenes, play areas	"play school"

The first theme, happiness and positive emotions, was visible in the frequent use of smiling faces, bright colours, and sunny outdoor scenes. These visual choices suggest that students associated the game-friendly school environment with positive emotions. This does not mean that the drawings provide direct evidence of emotional development; rather, they show how students chose to represent their feelings and experiences through age-appropriate visual expression.



Figure 1: Example student drawing representing outdoor play, friendship, and positive emotions in the GFS environment

The second theme, friendship and playing together, was reflected in drawings where students represented themselves playing with peers. This theme was also supported by short narratives such as "playing with friends". These representations are consistent with the teacher findings, which emphasised peer interaction,

collaboration, and social participation. They also align with the literature that frames games and play as contexts for communication and shared activity (Dyson et al., 2004; Adipat et al., 2021).



Figure 2: Example student drawing representing movement, school space, and peer play in the GFS environment

The third theme, movement and outdoor play, appeared through repeated images of running, balls, playgrounds, and outdoor school spaces. Students often represented play as active and movement-based, which is particularly relevant to the GFS project because many of the implemented games were located in corridors, playgrounds, and outdoor areas. This finding supports the importance of considering school spaces as environments for embodied and social participation, rather than only as settings for formal instruction (Ratey & Hagerman, 2008; Murray & Murray, 2022; Zhu et al., 2023).

The fourth theme concerned positive representations of school. Many drawings included colourful school buildings, open spaces, play areas, and children engaged in games. The phrase “oyun okulu” [play school] was especially meaningful because it suggested that some students associated the identity of the school itself with play. This finding supports the teacher data by showing that students represented the school environment not only as a place for lessons but also as a place for play, friendship, and movement.

Overall, the student artefacts suggest that first-grade students represented the GFS project through positive emotional, social, and spatial images. The drawings and short narratives do not provide evidence of measurable learning outcomes, but they offer valuable insight into how young students visually and verbally made sense of a game-friendly school environment. Together with the teacher responses, these findings suggest that the GFS project was experienced as a visible and meaningful part of students’ everyday school life, while also requiring careful attention to design, safety, and developmental appropriateness.

5. Discussion

The findings suggest that the GFS project was perceived by teachers and represented by students as a visible part of everyday school life. Teacher responses associated the project with enjoyment, peer interaction, communication, collaboration, rule-based play, and more meaningful use of recess time. These findings are consistent with research linking game-based and play-based activities with engagement, motivation, active participation, and social interaction (Li & Tsai, 2013; Pivec, 2009; Hartt et al., 2020; Adipat et al., 2021). However, they should be interpreted as perceived and represented experiences rather than as evidence of measurable learning or developmental outcomes.

A key contribution of the study is its focus on a school-wide game-friendly environment rather than a single classroom-based or digital game intervention. The GFS project involved corridors, playgrounds, wall games, floor tracks, board games, sports areas, and outdoor play spaces. The student drawings supported this spatial interpretation, as many represented school through smiling children, colourful buildings, balls, outdoor scenes, running, and playing with friends. These representations align with the view that physical and embodied forms of play can provide opportunities for movement, social participation, and shared activity in school settings (Dyson et al., 2004; Ratey & Hagerman, 2008; Murray & Murray, 2022; Zhu et al., 2023).

The findings also show that game-friendly environments require careful implementation. Teachers did not only report positive experiences; they also emphasised age-appropriate design, safe materials, and careful placement of play equipment. These critical comments show that school-wide play arrangements should not be understood as automatically beneficial. Their perceived value depends on design, supervision, developmental appropriateness, and integration into daily school routines. This supports the importance of teachers' perspectives for understanding both the possibilities and challenges of play-based practices in educational settings (Jääskä & Aaltonen, 2022; Schabas, 2023).

The study has several limitations. It was conducted in one private K–12 school, which limits transferability. Teacher data came from five first-grade teachers through a single open-ended questionnaire item; future studies could include interviews, observations, or focus groups. Student data consisted of drawings and short narratives, which should be interpreted as representations rather than direct measures of learning, engagement, or emotional development. Finally, the researcher's professional connection to the GFS project may have created a risk of positive interpretation bias. This was addressed by reporting both positive perceptions and practical concerns and by keeping the analysis close to the data.

6. Conclusion

This study explored first-grade teachers' and students' perceptions of the Game Friendly School project in one primary school context. The findings suggest that teachers perceived the project as contributing to enjoyment, peer interaction, communication, collaboration, rule-based play, and more meaningful recess experiences. Teachers also highlighted practical considerations related to age-appropriate game design, safe materials, and the physical placement of play equipment. Student drawings and short narratives represented the game-friendly school environment through positive emotional, social, and spatial images.

The study does not claim to measure the effectiveness of the GFS project in terms of academic achievement or developmental outcomes. Instead, it provides contextual qualitative insight into how a school-wide play environment was perceived and represented after approximately one year of implementation. Future research could examine similar game-friendly school initiatives across different school types, grade levels, and socio-cultural contexts using observations, interviews, longitudinal designs, or mixed methods.

Ethics Declaration: The confidentiality and anonymity of all participants were strictly maintained. All collected data were stored securely and used solely for research purposes. No identifiable personal information was disclosed.

AI Declaration: This paper was prepared with the assistance of Chatgpt-4.0, which was employed to proofread, edit, and refine the text, enhancing clarity and coherence. The AI tool was used as a supplementary editorial aid, complementing the human editorial process by refining language while preserving the author's original analysis and intent.

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