

EVALUATING A BOARD GAME INTERVENTION FOR PARENTAL INVOLVEMENT IN TEACHER EDUCATION

Zsófia Kocsis

Institute of Educational Studies and Cultural Management, University of Debrecen (Hungary)

Abstract

Parental involvement (PI) is widely recognized as a key factor in students' academic achievement, motivation, and social development. Teachers frequently interpret parental involvement primarily as a mechanism for control or problem-solving, rather than as a form of partnership based on shared responsibility and mutual trust. Traditional teacher education programs often struggle to influence these deeply embedded professional beliefs, highlighting the need for innovative, experience-based learning approaches. This study investigates the impact of a purposefully designed analogue board game as a pedagogical innovation for developing partnership-oriented attitudes toward PI among teacher trainees and teachers in Hungary. The intervention was implemented in teacher education courses and in-service programs using a quasi-experimental pre-post design. Based on anonymous identifiers, 31 matched pre-post responses were included in the analysis (17 teacher trainees and 14 practicing teachers). The instrument consisted of 70 items measured on a 10-point Likert scale. As normality assumptions were violated for most difference variables, Wilcoxon signed-rank tests were used to assess pre-post changes. The board game intervention resulted in positive attitudinal changes regarding parental involvement, particularly among practicing teachers. Participants increasingly perceived supporting parents and fostering school-family cooperation as part of teachers' professional responsibilities. A significant improvement was observed in the overall responsibility scale, with stronger effects among practicing teachers. Findings indicate that the board game-based intervention contributed to meaningful positive shifts in attitudes toward parental involvement, particularly among teachers. Participants increasingly perceived PI as a shared professional responsibility and showed greater appreciation for parents' roles in school-level activities and decision-making processes. Changes were more pronounced in relation to primary education, while involvement in secondary schooling remained less valued. Teacher trainees demonstrated more limited attitudinal change, suggesting that professional experience plays an important role in reflective learning within game-based environments. The results highlight the potential of board games as an innovative pedagogical tool for addressing relational and value-laden dimensions of teaching that are often neglected in formal training programs. The study contributes empirical evidence on how board games can support partnership-oriented approaches in teacher education.

Keywords: *Parental involvement, teacher education, board game, pedagogical innovation, intervention.*

1. Educational challenges in parent-teacher cooperation

Cooperation between schools and families is increasingly recognized as an essential element of effective education. Research consistently demonstrates that parental involvement contributes positively to students' academic achievement, motivation, well-being, and school adjustment. Nevertheless, despite growing international attention to school-family partnerships, meaningful collaboration between teachers and parents remains difficult in everyday educational practice. (Epstein, 2010; OECD, 2019).

Teachers frequently associate parental contact with problematic situations, disciplinary issues, or academic difficulties. As a result, communication with parents often becomes reactive instead of collaborative. Partnership-oriented approaches based on trust, reciprocity, and shared responsibility are less common, especially in institutional cultures where communication is primarily administrative or problem-centered. Another challenge concerns teacher preparation. Although parental involvement is often mentioned in teacher education curricula, future teachers usually receive limited practical preparation for handling complex family-school interactions. Communication strategies, conflict management, and partnership-building are rarely practiced in authentic or experiential learning situations (Chrappán 2025; Jones et al., 2025; Monfrance et al., 2025; Pedditz et al., 2021; Sheldon & Jung 2015). Consequently, many

beginning teachers enter the profession feeling uncertain about how to establish constructive relationships with families.

Research also indicates that teachers may hold implicit assumptions or deficit-oriented views about parents, particularly regarding families from socially disadvantaged or culturally different backgrounds (see Pusztai et al., 2025). Such attitudes may unintentionally weaken communication and reinforce institutional distance between schools and families. These challenges highlight the need for innovative teacher education methods that move beyond theoretical instruction and provide opportunities for reflective, practice-oriented learning experiences (see Frossard et al., 2012; Viray, 2016).

2. Board games as pedagogical innovation in teacher education

Game-based learning aligns with contemporary approaches to active and experiential learning, which emphasize not only cognitive but also emotional and social dimensions of learning (Illeris, 2003; Lim et al., 2019). Board games have also been shown to improve engagement, collaboration, and skill development across disciplines (Viray, 2016). Examples such as 5-ST☆R, Dixit-based adaptations, Monopoly-based learning, and BioRacer demonstrate that board games can effectively support both cognitive and transversal skills in higher education (Radzi et al., 2020; Janiga & Haverlíková, 2024; Vijayakumar & Kulkarni, 2020; Ezezika et al., 2023). These tools are particularly effective when learners are also involved in reflection or game design processes, supporting learner-centered pedagogy (Brydges & Dembinski, 2019; Frossard et al., 2012).

The board game was designed specifically to address these relational dimensions of teaching. The development process integrated findings from parental involvement research, family-school partnership models, and studies on cooperative game-based learning. The aim was not simply to transfer information about parental involvement, but to support reflective thinking and partnership-oriented professional attitudes.

The intervention also aligns with current discussions about pedagogical innovation in teacher education. It demonstrates how analogue educational tools can complement existing training methods by providing collaborative and experience-based learning opportunities.

3. The board game

The intervention was built around an analogue cooperative board game (K.Ö.SZ.I.) developed specifically for teacher education and professional development contexts. The game focuses on the relational and communicative dimensions of parental involvement and aims to create a safe environment in which participants can collaboratively explore educational dilemmas connected to school-family cooperation.

Rather than emphasizing competition, the gameplay encourages collective decision-making and shared responsibility. Participants form a single school staff team (school character card) and work together to manage the challenges emerging throughout a simulated school year. One participant takes the role of the school principal, while the others represent different educational professionals with diverse strengths and competencies. Each role is associated with four professional dimensions- communication, connectedness, expertise, and innovation- which influence the team's possible responses to various situations.

The structure of the game follows the logic of a school year divided into ten rounds corresponding to different months. During each round, participants encounter a new school-related challenge inspired by authentic educational experiences and research findings concerning parental involvement. The scenarios address communication problems, family expectations, institutional conflicts, student support, and community-building processes.

The board game integrates several interconnected game elements intended to support reflective learning and professional dialogue. Participants continuously evaluate possible strategies, negotiate solutions, and reflect on the consequences of their decisions within a collaborative setting.

An additional layer of complexity is introduced through Parent cards, which represent different forms of family engagement and influence participants' school character card in varying ways. Some cards portray highly engaged parents, while others reflect more passive or non-traditional forms of involvement. This mechanism encourages players to recognize the diversity of family situations and to adapt communication strategies accordingly.

Figure 1. K.Ö.SZ.I. board game.

The board game also incorporates Action cards and quiz-based tasks. Action cards introduce unexpected events that may positively or negatively affect the school community, while quizzes encourage participants to connect practical experiences with educational concepts and research-informed approaches. QR-code-supported supplementary materials further extend opportunities for individual reflection and learning. Importantly, the game does not reward individual achievement. Success depends on the group's ability to maintain balanced school indicators and collaboratively navigate the challenges of the simulated school year. This cooperative structure reinforces the idea that effective parental involvement requires shared responsibility, communication, and institutional partnership rather than isolated individual actions (see Kocsis et al., 2025).

Table 1. Main pedagogical components of the board game intervention.

Game element	Description	Educational function	Expected learning outcome
Professional role cards	Participants assume different school-related roles (e.g. teacher, parent representative, school leader)	Perspective-taking and empathy development	Greater awareness of stakeholder viewpoints and institutional dynamics
Scenario-based challenge cards	Realistic school situations connected to parental involvement and communication	Simulation of authentic professional dilemmas	Improved interpretation of school–family conflicts and communication strategies
Cooperative gameplay	Participants work together to manage challenges and maintain effective cooperation	Collaborative decision-making and dialogue	Development of partnership-oriented thinking and teamwork
Good practice cards	Examples of successful communication strategies and inclusive school practices	Modeling constructive cooperation	Recognition of effective partnership approaches and transferable practices
Quiz tasks	Short knowledge-based or reflective questions related to parental involvement and educational situations	Activation of prior knowledge and critical reflection	Increased awareness of educational concepts and communication issues
Solution board	Visual tool for evaluating and comparing possible responses during gameplay	Structured reflection and consequence analysis	More conscious and reflective professional decision-making
Facilitated group discussion	Guided reflection during and after gameplay sessions	Critical analysis of experiences and assumptions	Reflective professional learning and attitude development
Real-life educational dilemmas	Situations inspired by authentic school experiences	Connection between theory and practice	Better transferability to everyday educational contexts
Feedback and reflection phase	Participants evaluate their own decisions and group processes	Self-reflection and professional dialogue	Increased openness toward parental involvement and communication

At the beginning of the game, the player selects a school character that they will keep throughout the game (1). After this, the initial school indicators are set, such as academic performance, reputation, and community connectedness (2). Next, a Challenge card is drawn and read, introducing a new situation (3). The team then makes a joint decision and selects a strategy from the Solution Table (4). Based on the chosen decision, the school indicators are adjusted (5). After that, an Action card is drawn (6), followed by a Quiz card, which the team solves together (7). Finally, a correct answer on the Quiz card may lead to further improvement in the school indicators (8). At the end of the round, the current Parent cards are discarded, and new Parent cards are drawn, symbolizing the continuously changing relationship between the school and families (9). This marks the start of the next round.

4. The intervention - the participants' reflections and attitudinal tendencies

The parental questionnaire covered multiple dimensions of the school–family relationship, including family social capital, home-based parenting, learning support, communication with the school, volunteering, participation in decision-making, as well as barriers and negative experiences. Validation of the measurement instruments showed strong internal consistency and stable factor structures in both pre- and post-measurements.

The study investigated the impact of a developmental intervention in which teachers and teacher trainees participated in gameplay sessions as part of a university course or a school-based professional development programme. Depending on the size of the groups, the sessions generally lasted between 70 and 100 minutes. The intervention was conducted between September 2024 and January 2025. To evaluate its effects, a pre–post research design was applied: participants completed the questionnaire once before the intervention and again approximately 3–4 weeks after the gameplay session.

The study applied a quasi-experimental pre- and post-test design without a control group to examine changes in participants' perceptions after gameplay. Teachers and teacher trainees participated in separate groups. Based on anonymous identifiers, 31 matched responses were analysed, including 17 teacher trainees and 14 teachers; 66.7% of participants were female and 33.3% male. The pre-test and post-test were conducted using the same self-developed questionnaire consisting of 70 items measured on a 10-point scale related to PI. Since the assumption of normality was not met for most of the pre–post difference variables, the Wilcoxon signed-rank test was used to compare pre-test and post-test results. For statistically significant differences, effect sizes were calculated using the formula $r = Z/\sqrt{N}$, where $|r| \approx 0.1$ indicates a small effect, $|r| \approx 0.3$ a medium effect, and $|r| \geq 0.5$ a large effect. Due to the exploratory nature of the study, no multiple testing correction (e.g. Bonferroni–Holm adjustment) was applied.

The board game intervention produced positive attitudinal changes regarding parental involvement (PI), particularly among practicing teachers. Participants increasingly perceived supporting parents and encouraging school–family cooperation as part of teachers' professional responsibilities. Significant positive shifts were found in the overall responsibility scale, while the effect was especially strong among teachers. No significant change was detected among teacher trainees.

At the primary school level, the intervention resulted in a strong positive shift in attitudes toward PI. Significant improvements appeared in 14 of 31 activities, especially regarding parental participation in decision-making, extracurricular programs, study trips, and support for school events. Effects ranged from medium to strong ($r = .37$ – $.60$). Teachers showed broader changes (17 significant items) than teacher trainees (2 items). Positive changes were also observed regarding PI in secondary education, although attitudes remained generally less supportive than in primary education. The overall effect was significant and moderately strong. Again, changes were primarily driven by practicing teachers (Cohen's $d = 1.815$), while teacher trainees showed almost no significant shifts.

Overall, the findings suggest that reflective and practice-oriented game mechanics, including decision-making scenarios and realistic school situations, effectively supported more positive attitudes toward parental involvement.

5. Implications for teacher education

The findings suggest that teacher education programs may benefit from integrating more experiential and practice-oriented approaches related to parental involvement. While theoretical knowledge remains important, future teachers also need opportunities to practice communication, perspective-taking, and collaborative problem-solving in realistic educational situations.

Board games and similar pedagogical innovations may provide valuable tools for addressing these needs. Compared to traditional instructional formats, cooperative gameplay creates more interactive learning environments where participants can experiment with professional roles, discuss uncertainties, and reflect on their attitudes toward families and educational cooperation.

The intervention also demonstrates the importance of focusing on relational competencies in teacher education. Communication with parents is often treated as a secondary or intuitive skill, despite its significant influence on educational effectiveness and school climate. Structured reflective activities may therefore help future teachers develop greater confidence and openness toward family partnerships.

Furthermore, the board game format may be particularly useful because it is flexible, reusable, and adaptable to different educational contexts. It can support both pre-service and in-service teacher education while encouraging dialogue between participants with different professional backgrounds.

The results additionally highlight the importance of promoting partnership culture within schools. Effective parental involvement cannot depend solely on individual teacher motivation; it also requires institutional attitudes that value cooperation, trust, and shared responsibility.

6. Conclusion

This study presented a board game and a board game-based intervention designed to support partnership-oriented attitudes toward parental involvement among teacher trainees and practicing teachers. The findings indicate that cooperative gameplay can contribute to collaborative interpretations of school–family relationships. Participants increasingly viewed parental involvement as a shared educational process and demonstrated greater openness toward partnership-based communication. The study highlights the potential of educational board games as innovative pedagogical tools in teacher education. By combining experiential learning, professional reflection, and collaborative interaction, such methods may complement traditional forms of teacher preparation and support the development of communication-related competencies that are essential in contemporary education.

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