

EXPANDING KNOWLEDGE ABOUT PARENTAL INVOLVEMENT THROUGH BOARD GAME

ALARGAR OS CONHECIMENTOS SOBRE O ENVOLVIMENTO PARENTAL ATRAVÉS DE UM JOGO DE TABULEIRO

AMPLIAR LOS CONOCIMIENTOS SOBRE LA PARTICIPACIÓN DE LOS PADRES A TRAVÉS DE UN JUEGO DE MESA

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Abstract

Several research has drawn attention to the need of creating an active learning environment for university students, prioritising curricula that respond to the challenges of today's society and skills. Traditional learning theory focuses on the cognitive dimension and does not take into account the emotional and social dimension of learning, which makes students more active. Game-based learning helps to deepen knowledge, develop skills and increase motivation. The effectiveness of board games shows a better and longer-term effect compared to many other traditional educational methods. We have developed an analog board game that aims to increase players' knowledge. Our research question is: How does the board game we developed contribute to increasing students' knowledge about parental involvement? The board game is primarily recommended for teacher candidates. After testing the board game, students completed a questionnaire in which they evaluated the game mechanics and identified the information that was perceived as new during the game (n=85). The players particularly appreciated the co-operative nature of the board game and the characters. The majority of respondents thought that the quiz questions and action cards provided a lot of useful knowledge and that the board game offered a good opportunity to discuss the topic.

Keywords: board games, board games pedagogy, higher education, skills.

Resumo

Vários trabalhos de investigação têm chamado a atenção para a necessidade de criar um ambiente de aprendizagem ativa para os estudantes universitários, dando prioridade a currículos que respondam aos desafios da sociedade atual e às competências. A teoria tradicional da aprendizagem centra-se na dimensão cognitiva e não tem em conta a dimensão emocional e social da aprendizagem, que torna os estudantes mais activos. A aprendizagem baseada em jogos ajuda a aprofundar os conhecimentos, a desenvolver competências e a aumentar a motivação. A eficácia dos jogos de tabuleiro revela um efeito melhor e a longo prazo em comparação com muitos outros métodos educativos tradicionais. Desenvolvemos um jogo de tabuleiro analógico que tem como objetivo aumentar os conhecimentos dos

jogadores. A nossa questão de investigação é a seguinte: de que forma é que o jogo de tabuleiro que desenvolvemos contribui para aumentar os conhecimentos dos alunos sobre o envolvimento parental? O jogo de tabuleiro é recomendado principalmente para candidatos a professores. Depois de testarem o jogo de tabuleiro, os alunos preencheram um questionário no qual avaliaram a mecânica do jogo e identificaram a informação que foi considerada nova durante o jogo (n=85). Os jogadores apreciaram particularmente o carácter cooperativo do jogo de tabuleiro e as personagens. A maioria dos inquiridos considerou que as perguntas do questionário e as cartas de ação proporcionavam muitos conhecimentos úteis e que o jogo de tabuleiro oferecia uma boa oportunidade para discutir o tema.

Palavras-chave: jogos de tabuleiro, pedagogia dos jogos de tabuleiro, ensino superior, competências.

Resumen

Diversas investigaciones han llamado la atención sobre la necesidad de crear un entorno de aprendizaje activo para los estudiantes universitarios, dando prioridad a planes de estudios que respondan a los retos de la sociedad y las competencias actuales. La teoría tradicional del aprendizaje se centra en la dimensión cognitiva y no tiene en cuenta la dimensión emocional y social del aprendizaje, que hace que los estudiantes sean más activos. El aprendizaje basado en el juego ayuda a profundizar en los conocimientos, desarrollar habilidades y aumentar la motivación. La eficacia de los juegos de mesa muestra un efecto mejor y a más largo plazo en comparación con muchos otros métodos educativos tradicionales. Hemos desarrollado un juego de mesa analógico cuyo objetivo es aumentar los conocimientos de los jugadores. Nuestra pregunta de investigación es: ¿Cómo contribuye el juego de mesa que hemos desarrollado a aumentar los conocimientos de los alumnos sobre la participación de los padres? El juego de mesa se recomienda principalmente a los candidatos a profesores. Después de probar el juego de mesa, los estudiantes rellenaron un cuestionario en el que evaluaban la mecánica del juego e identificaban la información que percibían como nueva durante el juego (n=85). Los jugadores valoraron especialmente el carácter cooperativo del juego de mesa y los personajes. La mayoría de los encuestados pensaba que las preguntas del cuestionario y las tarjetas de acción aportaban muchos conocimientos útiles y que el juego de mesa ofrecía una buena oportunidad para debatir el tema

Palabras-clave: juegos de mesa, pedagogía de los juegos de mesa, enseñanza superior, competencias.

INTRODUCTION

Research has shown that the use of board games in the classroom develops a range of competences that are also important in the labour market. The 4Cs: creativity, communication, cooperation and critical thinking are among the most important competences for the 21st century (González-Salamanca et al., 2020), which are particularly important in teacher education, as they are essential factors for working with colleagues, students and parents. These competences should be strengthened during teacher training. Combining the topic of interactions with parents with an interactive, educational board game can create a more comprehensive and effective learning experience in teacher education, better preparing future teachers for interactions with parents. Furthermore, the use of board games in the classroom can serve as a model for students in teacher education to adapt their own work to the needs of the younger generation and to provide a modern learning environment. Board games offer an interactive learning experience and promote engagement, collaboration and critical thinking.

1 LITERATURE REVIEW

In the past decade, the question of moving from a traditional approach to an educational paradigm centred on student activity has also arisen in higher education. Several research has drawn attention to the need of creating an active learning environment for university students, prioritising curricula that respond to the challenges of today's society, skills and learning to learn. Recently, new teaching strategies have emerged with the aim of adapting pedagogical practices to promote engaged learning experiences that better equip students to meet the expectations of a changing world (Khalaf & Zin, 2018; Manzano-León, 2021).

1.1 The role of board games in education

The literature suggests that education is at a critical juncture, with an enormous gap between education systems and learning models, and the need to continuously adapt to the challenges in education (Khalaf & Zin, 2018). There are many innovative pedagogical tools at their disposal, some of which have to do with games (Camacho-Sánchez et al., 2022; Hwang et al., 2019). Traditional learning theory focuses on the cognitive dimension and does not take into account the emotional and social dimension of learning, which makes students more active (Illeris, 2003; Lim et al., 2019). According to Csikszentmihalyi (1990), the use of games in education is essential for learning, because the games have their own rules and objectives, allowing us to find pleasure in our activities. In the current work, we focus on game-based learning, and within that on board games, as the above concepts are often conflated with the notion of gamification. While gamification is defined as the use of specific game elements (Deterding et al., 2011; Al-Azawi et al., 2016; Al-Fatta et al., 2018), Game-Based Learning (GBL) uses games that aim to allow learners to enjoy a playful experience while also achieving the educational goal (Ge & Ifenthaler, 2018; Hwang, 2014; Kangas, 2010; Tang et al., 2009).

Game-based learning helps to deepen knowledge, develop skills (Perini et al., 2018), and increase motivation (Eltahir et al., 2021). The effectiveness of board games shows a better and longer-term effect compared to many other traditional educational methods (Karbownik et al., 2016). According to Viray (2016), there is also a significant difference in academic performance between the experimental group using board games and the control group. Research has shown that the use of board games is an excellent way to introduce a more difficult topic (Antonaci et al., 2015; Connolly et al., 2012). Some of the research focus on the use of board games in higher education, especially in the medical and health sciences (Brydges & Dembinski, 2019; Pimentel et al., 2022). Other studies examine another area of development, e.g.: improving time management (Falim & Prestiliano, 2018). In Hungary, there is a limited amount of research on board game pedagogy (Jesztl & Lencse 2018), and this existing research is also focused on public education. Our aim is to explore how board game pedagogy can be applied in higher education and how effective it can be considered in higher education courses, especially in facilitating teacher-parent cooperation.

2. RESEARCH AND DEVELOPMENT WORK

As highlighted in the Introduction, parental involvement is a key area for research and education. Grolnick & Slowiaczek (1994) define parental involvement as “the dedication of resources by the parent to the child”, while Hoover-Dempsey & Sandler (1997) use the term to refer to parents’ home and school activities that are related to their children’s learning. The cooperation between family and the school are positive factors to contribute to the school climate and to help the parties to work together (Epstein, 2010).

Research has measured the concept of parental involvement in a variety of ways, and most often found a positive association with improved academic outcomes (Watson et al., 2012; Boonk et al., 2018). Beyond the positive effects of parental engagement and school involvement on students, there are other co-benefits. Experience from international programmes supporting parental involvement shows that improvements are not only visible in the school setting, but also at home, with participating families reporting improved parent-child relationships and improvements in parenting styles (Goodall & Vorhaus, 2011). However, a well-functioning relationship is not only beneficial for the students and their families. There is also a positive impact on the teacher and the school culture (OECD, 2019). The school’s reputation, its links with other institutions and its local community, as well as its recognition, also benefit from parental involvement (Goodall & Vorhaus, 2011; Fine, 1993).

Our research team aims to professionalise teachers’ activities to enhance parental engagement. Through peer play, they can experience situations that are both a challenge and a resource in school-family relations. Participants can learn about national and international good practice in school-family relations through play, and increase their knowledge of the impact of parental involvement. The board game is particularly recommended for teacher candidates, teacher education students and teachers. It is also highly recommended for school support professionals and for students currently studying in higher education who are preparing for a support profession (e.g. teacher, psychologist, social worker). Some of the elements of the board game (see quiz cards) can also be used as teaching aids in a course or training session, as the questions provide an opportunity to discuss teaching, educational or research situations.

The game is also designed to enable participants to put the knowledge or experience they have gained from the new material to good use in the long term. The table below summarises how teachers and professionals can benefit from the practical application of the information acquired along the dimensions developed by Epstein (2010).

Table 1

The positive aspects of parental involvement for teachers

Dimensions	Title 2
Strengthening parenting skills	Understanding student behaviour, understanding the situation and culture of families. Persuasive reasoning, more problem-free learners. Discovering the strengths of families and developing their own pedagogical and developmental knowledge and skills.
Strengthening communication	Developing the ability to communicate with parents of different social status and culture. Recognising and using the power of parental networks.
Volunteering	The ability to involve passive families is improving. Trust is strengthened in informal settings. Assessing and recognising parents' talents, sharing tasks by activating them. Activating parents to support pupils and parents in need, sharing the burden.
Supporting learning at home	Plan homework more efficiently and complete tasks more confidently. Better relations with parents due to respect for family time. Identification of motivational opportunities for single-parent, two-parent (burdened) and low-status families.
Decision making, involvement in decision preparation	Getting parents' perspectives before making a decision. Better estimate the outcome of a decision. A more realistic view of parenting through working with parent representatives.
Cooperation with the community	Enriching school programmes with external actors, task sharing. Ability to involve external mentors and partners. Facilitate motivation by shaping students' vision and life goals.

Note. Own editing, based on Epstein (2010).

2.1 Categorising the game

Serious games are educational games that are not designed for entertainment. These types of games provide a low-stakes environment for learners. They can modify learner behaviour and attitudes to meet educational goals and can support the facilitation of learning (Abt, 1970; Cosimini & Collins, 2023). Research to date suggests that educators who wish to develop or use this type of card and board games should start with shorter and less complex games first. Educators and researchers should investigate methods to demonstrate the accuracy and content of educational games (Cosimini & Collins, 2023). The board game we developed is classified as an adult board game, as players encounter many decision situations. Our board game is a cooperative game, as players win or lose together. It is advanced in terms of difficulty, as it requires a serious mental effort, due to the fact that it is an educational game, the main purpose of which is not entertainment. It is replayable through character abilities, action cards and scenarios. Given that the characters have abilities and work together towards a common goal, it can be considered a symmetric game, and because it embraces a broad theme of parental involvement, it is a thematic game (Györi-Nádai & Györi, 2023).

2.2 The game situation

The aim of the board game is for players to work together to solve the challenges of family-school relations and parental involvement in ten rounds, symbolizing the school year. The challenges represent situations and life situations that are based on reality, research findings and teachers' experiences. In addition to cooperativeness, luck plays a major role, sometimes bringing positive, sometimes negative changes to the course of the game. The board game can be played by 4-7 people at the same time. The game is called KÖSZI (meaning "thank you" in Hungarian) with the subtitle Communication and Connectivity between Parents and School. The aim was to give the game an informative title, even if it is a short acronym, with a positive connotation and an interesting and memorable first sound. We wanted the title to clearly convey the aim of the research and the game, which is to strengthen communication, partnership and harmony between family and school. The titular word also appears in other ways throughout the game.

Figure 1

Box design of the board game



Note. Board game graphics by Zsófia Miklódi-Simon (junior researcher of MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen).

2.3 The characters

Each player plays as one character. The 'school character cards' are intended to symbolise the school professionals and school workers. During the creation of these characters, we have tried to represent school workers in a variety of ways (gender ratio, positions, attitudes, etc.) and to show the "personality" of the characters they were given speaking names, sometimes based on a pun. The characters have four different abilities, which are marked on a scale of 1 to 5 on the card. The skills are: communication, connectivity, expertise and innovation. The 'KÖSZI Index' (Thanks Index) was created through the combination of these skills. (KÖSZI is an acronym made up by the initial letters of the skills' Hungarian names, respectively.) (1) Communication: the score used for actions requiring communication (e.g., solving conflicts, giving speeches, conducting meetings.) (2) Connectivity: the score required for actions that involve contact with parents and other institutions (e.g., communication with these two parties, etc.) (3) Expertise: the score used for tackling issues related to education (e.g. specialised courses, preparation for academic competitions, graduation, competency tests.) (4) Innovation: the score used for solving actions related to innovation (e.g. practical application of research results, educational reforms, good practices.)

The creation of school characters is based on the work of our research team to date and on international literature. Principals (Sheldon et al., 2015) play an important role in the game, and in addition to teachers in primary and secondary schools, school support professionals (Csók & Pusztai, 2022), mentors (Godó & Hornyák, 2023) and other school staff are also featured in the game. Interpretation of scores: 5 in the Thanks Index indicates the highest level of competence. During the development, we also designed 'parent cards' based on the theoretical starting point of Smit et al.'s (2007) typology. The aim of their research was to explore what different groups of parents expect from

the school and, based on this, to develop strategies for engaging different types of parents. Using this typology, parent cards were created that embody a particular type of parent.

Figure 2

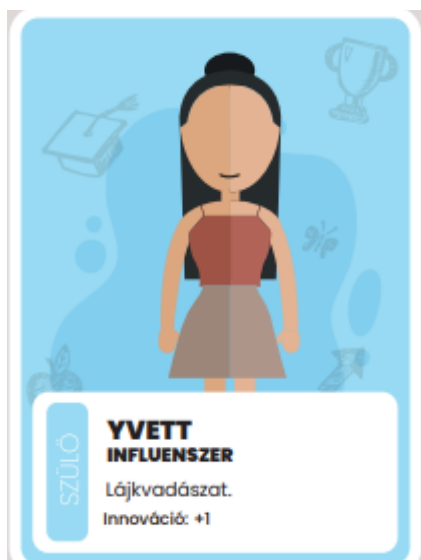
The school character (High school maths teacher)



Note. This character is an ageing, yet respected teacher who has experienced a lot in his long career. He is respected for his great knowledge and fairness. But he is at a loss to understand the problems of the modern school, and does not know the latest and most effective solutions. Communication skill: 3, Connectivity: 3, Expertise: 4, Innovation: 1. Board game graphics by Zsófia Miklódi-Simon (junior researcher of MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen).

Figure 3

The parent character (Influencer mom)



Note. She is Yvett, the influencer. Her greatest strength is the hunt for likes. She increases the school character's innovation skill (+1). Board game graphics by Zsófia Miklódi-Simon (junior researcher of MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen).

2.4 Preparations for starting the game

We start the preparation by shuffling and drawing the character cards. Before shuffling, make sure that the deck contains at least one Principal character. Each player draws one card. The second step is to set the 'status of the school. On the game board there are three scales from 1 to 10 that represent each characteristic of the school. The scales are the following: connectivity with parents, school performance and prestige. These characteristics must be observed during the whole game, and the players should aim to get a score as high as possible by the end of the tenth round. These three attributes were also traced back to the six dimensions established by Epstein (2010), as it was felt that the prestige of a school is strongly influenced by the level of parental involvement in volunteering and the level of cooperation with the local community. Student achievement is closely related to participation in home learning, while parental engagement itself is related to communication and participation in decision-making.

The definition of 'school status' is based on the database of National Competency Survey 2019, using the Parent Activity and Achievement Indicator. Four categories were developed: (1) active parent involvement - effective school, (2) active parent involvement - ineffective school, (3) inactive parent involvement - effective school, (4) inactive parent involvement - ineffective school. We thought it was important to include the above categories in the game because by changing the school categories, the difficulty level of the board game can be adjusted. When playing the game for the first time, it is recommended to place the markers on the fifth unit for each scale, so that this becomes the 'starting status' of the school.

In addition to the character cards, there are three other types of cards that must be placed on the game board: two separate decks of 'action' and 'good practice cards', and a third deck of 'situation cards.' The 'situation cards' play an important role in the progress of the game: these cards are numbered from 1 to 10, thus in each round the card with the corresponding number has to be drawn and read.

2.5 Playing the game

First, make sure that each player has drawn a school character card. The person with the Principal character draws the first situation card, which contains the (problem) situation for that school-month and its impact on the school. After the text on the card is read out, the impact on the school is marked on the attribute scales. In order to solve the (problem) situation of the month, players need to rely on parents. Therefore, as a next step, each player is required to draw a parent card. It is important to note that parents have an effect on the players' characters, i.e. they reduce or increase a skill point. Each turn, the characters solving the situation must take into account the effect of the parent drawn. At the end of a turn, only those who participated in solving the (problem) situation must discard the parent character card and draw a new one in the next turn. With this mechanism we wanted to present that teachers and school professionals always work with different parents. To solve the (problem) situation, players have a 'solution board' with nine methods listed. From the possible activities, players have to choose the one they think is the closest to the solution. In order to carry out the activity, certain points are needed, which can be achieved by adding up the characters' skill points. This process requires the cooperation of up to three characters. The addition of their skill points must involve the influence given by the parent cards, be it positive or negative. If they have enough points, the solution will have an effect, and this effect should also be indicated on the school characteristics scale.

Other mechanisms are also in play: action and good practice cards must be drawn each month, but players only need to draw one card, collectively. Action cards are unexpected events that always have a negative effect on the course of the game. Good practice cards, on the other hand, have a positive effect on the game. Good practice cards represent national and international, existing and proven good practices. For both types of cards, the description on the card should be followed and the scale indicating the characteristics of the school should be modified. Drawing 'quiz cards' is optional and can only be drawn once per round. The quiz cards can be answered collectively by the group. If they answer correctly, they can add a point to the school scale of their choice (connectivity with parents, school performance, prestige). The purpose of this type of card is to allow players to make a collective decision after they have answered correctly, and thus influence the rest of the game. On the other hand, with this card type we wanted to ensure that the players would become familiar with the most important results of research on parental involvement.

3 THE FIRST FEEDBACK

The board game was tested by 25 teachers and 60 students. The players were asked to rate the game on a Likert scale from 1 to 10. 38% of them gave the highest score. The lowest score was 7 (8%). The players liked the cooperative nature of the board game and the opinion forming. They thought it was extremely important the topic, but also emphasised that they particularly liked the fact that the board game created humour but educational situations. They liked the characters in the game the most (e.g. influencer mum).

In the questionnaire, they made a number of forward-looking suggestions that we tried to incorporate into the game. These suggestions included, for example, adding grandparents, older siblings, foster parents or parents of different ethnicities to the parent cards. The majority of respondents agreed that "the game demonstrated the extraordinary teamwork required for a school to function well, and parents are an essential part of that teamwork". In the first phase of testing, respondents often highlighted that the game is longer if more people play. For this reason, after testing with some larger groups (10-12 people), we reduced the number of participants in the board game to a maximum of 8. Of course, the game can be played with a larger number of people, but then you have to take into account that the game is time-consuming. Many participants found the presence of a game master positive, but highlighted that the game master should be able to manage the communication between the participants, and that the game requires a developed or managed debating culture. This insight is useful for us, as the board game is primarily designed for university courses, where the instructor is likely to play the role of referee. The majority of respondents also indicated that it would be worthwhile to design the quiz cards and the good practice cards in such a way that they are as informative as possible without a game leader. For this reason, the quiz cards not only show the correct solution, but also a short explanation on the card and a QR code to scan the original article with the solution. In the same way, a QR code can be used to access the websites of schools that use good practices, or to access studies that detail good practices.

The final question on the questionnaire asked what new things they had learnt during the game:

"On the diversity of relationships with parents."

"The quiz questions gave me a lot of useful knowledge, and the content of the questions/answers in them was very new to me."

"The game made me realise how many characters there are in the education system, both in the school and in the parenting circles. Also, as you mentioned, it was great to get an insight into how a school year is structured."

"Collaboration with other players. We didn't play against each other but together."

"Basically, the possible ways to respond to situations were new to me, that there are so many and what they specifically involve."

"Rather, it reinforced for me how much is needed, how much depends on people, how many factors shape the atmosphere, the performance, the personality of the participants in a school."

"The different ways of doing things, although as it turned out, because these programmes and forms of involvement are not so widespread in Hungary."

"I had never played with a game like this before, which was aimed directly at teachers, this was a completely new experience."

Some respondents described specific concepts and terms, some named programmes, while most drew on information in the quiz questions, but there were also some players who had never played a similar cooperative or character-based game before. Testing is still ongoing.

CONCLUSIONS

As a conclusion, the use of board games to work on a research topic or course material can have several advantages for university students. On the one hand, it can enhance engagement by making learning more experiential, breaking away from traditional teacher-centred, lecture-based methods. On the other hand, students can actively engage in decision-making, problem-solving and critical thinking, thus promoting a deeper understanding of the (research)

topic. Some board games, like the one we are developing, simulate real life situations. This allows students to put and apply theoretical knowledge in a practical context. The mayor strength of the game we have designed is that it requires cooperation and communication. Students work together, discuss strategies and formulate their opinions. In addition, it is important that board games can increase motivation to learn. Taking into account that students have different learning styles, board games are also suitable for visual auditory students, as they can provide a more effective learning environment. The board game we have designed can enhance their research skills, as it can encourage them to do further research on a relevant topic, or, specifically for students in teacher education, it can motivate them to use similar playful methods in their own work. In conclusion, the incorporation of board games into university education creates a dynamic and effective learning environment that develops a range of competences while expanding the knowledge of participants. The use of board games in higher education courses represents a novel and effective approach to transferring knowledge and skills related to parental involvement.

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