

Board Game Design Experiences in Playful History Education

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Abstract

This study examines the implementation of board game design as a pedagogical tool in higher education history courses, in order to enhance students' historical comprehension while fostering skills in creativity, critical thinking, and collaborative teamwork. Twenty-five students were involved in an extracurricular project focused on the design of historically-themed board games.

Students attended preparatory workshops on game design before developing two board games: *L'ultimo viaggio sulla via della seta* and *Cuius regio, eius religio*. The process required students to synthesize complex historical information into coherent and playable systems, thereby encouraging critical engagement with historical themes. This approach moved beyond rote memorization, fostering a deeper and more nuanced understanding of historical processes and dynamics.

The results indicated high levels of student engagement, and the iterative nature of the design process, including play-testing, was particularly effective in enhancing both comprehension and retention. However, challenges arose in managing larger-than-anticipated group sizes and differing levels of prior game design knowledge among students. Future iterations may benefit from addressing these limitations and exploring additional formats, such as gamebooks.

This study underscores the potential of game design-based learning in history education, demonstrating its capacity to promote active learning while developing both disciplinary expertise and transferable skills.

Keywords: history education, public history, game-based learning, game design-based learning, game science.

Board game and history

In recent years, there has been a remarkable flourishing of the board game market. This phenomenon not only has a significant economic impact, with a global market reaching a value of USD 18.68 billion and a projected growth rate of 12.29% between 2024 and 2031, but it also represents an interesting opportunity for the teaching of history and public history¹.

In fact, the production of board games with historical settings has become a relevant cultural phenomenon, as evidenced by the presence of nearly 18,000 titles classified as 'historical' on BoardGameGeek², the most comprehensive board game database. These games include a wide range of game families and mechanics: from abstract to thematic, to more simulation-based types, such as wargames. There is a noticeable preponderance of titles set in the contemporary age, followed by those from the medieval and modern periods, reflecting trends and interests of the audience.

The link between historical knowledge and gaming has deep-rooted origins, but the current situation of the game industry, with over 10% of global game production addressing themes of the past, is particularly significant. This phenomenon can be interpreted as a resurgence of a need for history that

¹ <https://www.verifiedmarketresearch.com/product/board-games-market/>

² <https://boardgamegeek.com/>

finds unconventional channels of expression in an era dominated by widespread 'presentism' (Repetti, 2024). Historical board games can rightly be considered tools of public history: they appeal to a diverse audience in terms of age and socio-cultural background, often not directly interested in historical knowledge, yet expressing curiosity about different pasts. These products ultimately fulfill an outreach function, sometimes stimulating a deeper interest among players.

The use of historical board games for teaching in university settings offers multiple advantages. It allows students to engage with and better understand historical events on multiple levels: from a basic level, focused on events and protagonists, to a more critical level that analyzes the ideological background and interpretative postulates of the game itself. This approach enables reflection on the relationship between sources and the playful narration of history, considers the impact of gaming products in terms of public history, and raises student awareness about potential new professional avenues offered by historical sciences.

Unlike playful teaching in primary and secondary schools, which often favors short and simple games easily accessible to teachers and students, the university approach can instead leverage complex, expensive, and more profound games. Titles like *Pax Renaissance* by Phil Eklund (2016), which simulates the rise of merchant capitalism in 15th-century Europe, or *Here I Stand* by Ed Beach (2006), focused on the geopolitics of the Protestant Reformation, provide a deep and historically accurate gaming experience, ideal for stimulating discussions and critical analysis.

Interest in historical gaming is also evident in academic and cultural spheres. This is evidenced by the activities of scientific associations such as the Italian Association of Public History (AIPH), the Game Science Research Center, Clio '92, and Historia Ludens, as well as the recent 'Ludic History Manifesto' (<https://aiph.hypotheses.org/3193>). These initiatives aim to explore the intersections between gaming and history, from playful forms of public history to the playful teaching of history.

The use of historical board games in university teaching therefore represents an innovative and potentially effective approach to teaching history. It offers students an immersive and engaging experience, stimulating critical reflection and understanding of historical processes. However, it is important to emphasize that these tools do not replace but rather integrate traditional teaching methods, offering new perspectives and modes of engagement with the subject of history.

(Board) game design-based learning

Games are an effective and widely used tool for teaching and have been applied to a broad range of subjects in both formal and informal educational contexts (Persico et al., 2019). However, within the field of game-based learning, there is a growing interest in having students not just play games, but also design them. This approach is alternatively called game design-based learning (Rugelj & Lapina, 2019), game development-based learning (Holenko Dlab & Hoic-Bozic, 2021), or game-making (Earp, Dagnino, & Ott, 2014). In these methods, groups of students collaborate to create a playable game, which may be intended for their peers or for audiences outside the classroom.

This approach is grounded in constructivism and constructionism (Zajda, 2021). Constructivism emphasizes the importance of learners actively engaging with a rich environment to build knowledge. Thus, learners are not seen as passive recipients, but as active participants who construct their own understanding of the world. Collaboration and social negotiation are key components of constructivist learning, enabling students to explore various perspectives and deepen their understanding through dialogue and discussion. Constructionism extends constructivist principles by emphasizing the creation of external, shareable artifacts that students can construct, reflect upon, and share (Papert & Harel, 1991). According to Wu & Wang (2012), learning is more effective when learners create artifacts that they find personally meaningful and relevant. In this context, games serve as an ideal medium for such artifacts, as the process of designing games can be both enjoyable and meaningful, especially for younger generations immersed in gaming culture (Caperton, 2010). Game-design based learning can also be seen as a form of "triological" learning (Paavola and Hakkarainen, 2009), where

learning does not occur solely within the mind of the individual (monological) or through peer interaction (dialogical), but through the collaborative creation of artifacts (Zapušek & Rugelj, 2021). This collaboration supports the development of both technical skills (e.g., disciplinary knowledge) and soft skills (e.g., teamwork, problem-solving; Zapušek & Rugelj, 2021). Moreover, the game design process encourages students to discuss and negotiate the historical content to be included in the game as they are challenged to transform abstract knowledge into tangible, playable systems. Student groups have to analyze, select, and structure historical events, figures, and themes in a coherent narrative that can be simulated through game mechanics, and can leverage each other's strengths to develop a game that would otherwise be beyond their individual capacities. This process mirrors the work of historians, who also interpret and organize sources to craft meaningful historical narratives. Indeed, by designing their own historical games, students become more aware of the interpretive nature of history, recognising that every game mechanic and rule reflects a particular historiographical perspective. Game design-based learning is typically implemented by having students create digital games, often with the objective of teaching coding or development skills (Holenko Dlab & Hoic-Bozic, 2021). A systematic review of game-based learning methodologies in history education revealed a high prevalence of digital games (Oceja, Abián-Cubillo, & Torres-Trimallez, 2022). However, for teaching history specifically, there is no inherent advantage in creating a digital artifact; on the contrary, designing a board game can enhance the comprehension of processes and causal relationships among historical phenomena. The recent resurgence in popularity of modern board games also makes them a medium just as relevant to students as digital games.

Finally, the creation of historical board games can help students explore new professional opportunities. By bridging the gap between history, design, and game development, students acquire valuable skills applicable to various fields such as education, cultural heritage, and the entertainment industry. Thus, game-making becomes not only an educational exercise but also a form of public history, providing students with the opportunity to communicate their understanding of the past to a broader audience through a playful, interactive medium. Following this rationale, we used a game-based learning approach in a Modern History class at the University of Genoa, which will be described in the following.

Methodology

Since its foundation in 2021, the Game Research Center (Centro di ricerca sul gioco - CeRG) of the University of Genoa has been actively promoting the integration of board games and history through a series of initiatives aimed at using this medium as a tool for dissemination and public history.

Between 2021 and 2024 numerous events have been organized, such as seminars, and workshops focused on the intersection of board games and history. These initiatives have provided both students and academic professionals with opportunities to engage deeply with history, discussing the relevance of board games in historical education and public history.

In addition, CeRG has become a hub for innovative teaching methods that blend historical study with game-based learning. Different experiences of board game learning and game design methodologies have been made in history courses in different degree programs at the University of Genoa. These experiences have involved students in the design of games that not only entertain but also educate by simulating historical events, decisions, and socio-political dynamics. By integrating game design into the history curriculum, CeRG has experienced new ways of engaging students, encouraging critical thinking and creativity, while providing them with a more immersive understanding of historical processes and narratives.

During the 2023/2024 academic year, the Modern History course, offered as part of the Bachelor's program in International and Diplomatic Sciences, introduced an innovative extracurricular activity.

Board Game Research Meeting 2024, Atti del convegno

While the core course, which focuses on key themes of Early Modern European history such as the rise of nation-states, colonialism, and economic transformations, was taught in a traditional lecture format, students were also given the opportunity to engage in a voluntary, hands-on project. This project aimed to blend historical study with board game design, offering the opportunity to apply historical knowledge into a group project.

The extracurricular activity, which ran from February to May 2024, involved 25 students who were divided into two groups. Their task was to design a historically-themed board game, with complete freedom in choosing setting, and game mechanics, giving the only constraint of setting the game in a historical setting. The objective of the project was not only to encourage students to explore historical themes but also to develop their skills in creative problem-solving, collaboration, and project management.

To prepare the students for this task, the course instructor, alongside external experts in game design and educational game-based activities, conducted a series of preparatory workshops. These initial sessions focused on introducing the students to the basics of board game mechanics, including how games are structured, the different types of mechanics (such as strategy, role-playing, and simulation), and the stages involved in the game development process—from concept to prototype. These workshops also discussed the role of board games as educational tools, particularly in teaching historical content, offering the students examples of historically-themed games that have been successful in both entertainment and educational contexts.

Despite their enthusiasm, most students had little to no prior knowledge of board games, and only a handful were familiar with modern board gaming as a hobby. As a result, the workshops played a critical role in equipping them with the necessary tools to approach game design effectively. They learned to think critically about how history can be represented through gameplay, considering factors like narrative structure, player interaction, and how to balance historical accuracy with engaging game mechanics.

The initial workshop, designed to introduce students to the fundamentals of board game design, consisted of two sessions. These meetings provided a general overview of the key elements involved in developing a board game, preparing the students to embark on their own game design projects.

In the first session, the focus was on the structure of board games. Students learned about the fundamental components that make up a game, such as objectives, rules, and win conditions. The discussion covered game mechanics and dynamics. Students were introduced to common game mechanics, such as worker placement, card drafting, and resource management, and were taught how to choose mechanics that align with their chosen historical themes. The session also covered how these mechanics influence player decisions and interaction, helping students understand the balance between strategy and fun.

The second and final session focused on the game development process, from concept to prototype focusing particularly on historically-themed games. The students were introduced to brainstorming methods, prototyping techniques and the importance of iteration through playtesting. Practical advice on how to refine gameplay, adjust mechanics, and balance complexity was also provided, ensuring they were ready to begin creating their own games.

These workshops equipped the students with the essential knowledge and skills to begin their journey into board game design, fostering creativity while ensuring a solid understanding of both the technical and narrative aspects of game development.

After the initial workshops, the students were given full autonomy over the development of their board games. They met outside of regular class hours, coordinating their efforts and collaborating independently. Each group was responsible for researching their chosen historical theme, designing the game mechanics, and creating a prototype. The development process required them to manage various challenges, from ensuring historical fidelity to designing gameplay that was both educational and enjoyable. Periodically, they had meetings with the teacher and other experts to provide them guidance and suggestions to solve various issues they had to face.

An additional innovative aspect of this educational project lies in the collaboration established between students from different degree programs. Voluntary students from the Architecture bachelor degree course, specifically from the Representation Workshop, were involved to support the two groups in the development of the visual elements of the board games. This interdisciplinary approach took the collaboration to the next level, further promoting teamwork and the integration of diverse fields of expertise. The combination of historical content with design skills enriched the output of the activities, and encouraged students to work cohesively while drawing from a wider range of academic disciplines.

Output of the game design projects

The students participating in the course developed two games: *L'Ultimo Viaggio sulla Via della Seta* (The Last Journey on the Silk Road) and *Cuius Regio, Eius Religio* ("whose realm, their religion", one of the principles of the Peace of Augsburg).

L'ultimo viaggio sulla via della seta – is a competitive board game for 3 to 6 players designed to simulate the historical dynamics of trade along the Silk Road during the late medieval and early modern period. Playtime is expected to be between 1.5 to 2 hours.

Players can assume the role of one of three primary factions (Genoa, Venice, and the Ming Empire) or one of three secondary factions (Timurids, Golden Horde and Ottomans). The primary factions will compete by racing to traverse the Silk Road while collecting a sufficient amount of resources (wood, salt, olives, slaves, iron, wheat, ships, coins, grapes) to claim victory. The secondary factions will collectively win if they stall the primary factions, preventing their victory until the turn limit. This dynamic captures the historical tensions between powers seeking to expand trade and those aiming to protect their interests through more isolationist policies. The game's time limit of 40 turns, representing 5 years, adds a sense of urgency that reflects the rapidly changing political landscape of the Early Modern period. The game board represents a stylized map of Eurasia, with various territories and trade routes marked (Fig. 1). Players move their pieces across this map, simulating the journey of merchants and diplomats along the Silk Road. The board is divided into different types of zones – neutral, red, and sea zones – each presenting different levels of risk and reward. This design choice reflects the varied geographical and political landscapes traders had to navigate, from relatively safe and established routes to more dangerous or unpredictable territories. Even more importantly, it reflects the plurality of routes that actually comprised the 'Silk Road', challenging the popular notion of the Silk Road being a singular path.

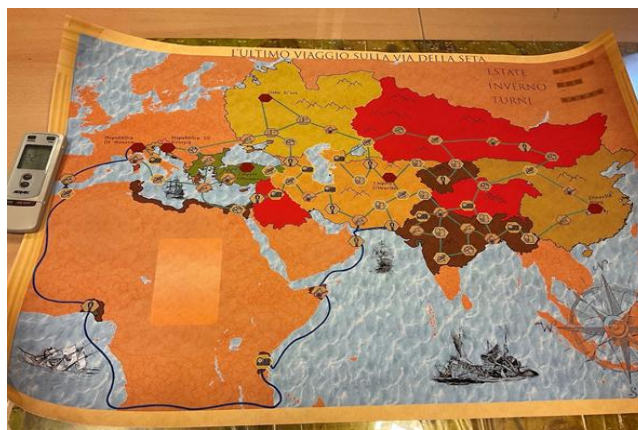


Fig. 1 – Prototype board

Choosing the route to follow entwines with the game mechanic of resource management: traversing certain territories requires players to spend resources while allowing for collecting other resources, much as historical merchants had to negotiate passage and exchange goods along their journeys. The game incorporates a seasonal mechanic, alternating between summer (5 turns) and winter (3 turns), and during winter resources become scarcer, reflecting the historical challenges of winter travel and trade in many parts of Eurasia. When players meet in the same territory, they may exchange resources, a diplomacy mechanic often needed for a primary faction to win. The game also includes a market mechanic that opens after the first seasonal change. This feature allows players to trade for special resources that facilitate progress, such as a “magic potion” for an emir or a letter signed by the Pope, reflecting historical realities where diplomatic gifts, religious authority, and local customs played crucial roles in facilitating trade.

Cuius Regio, Eius Religio – is a 7-player competitive game played in teams and set during the Protestant Reformation in the Holy Roman Empire. The game begins in 1515, with the Holy Roman Empire at the height of its power under Charles V. It then progresses through the onset of the Protestant Reformation in 1517, touching on key historical events such as the German Peasants' War (1524-25) and the Schmalkaldic War (1546-47), before culminating in the Peace of Augsburg in 1555. Players assume the roles of the seven German prince-electors, each assigned a specific territory and a secret religious affiliation (Catholic or Protestant) at the game's outset. The game board represents a stylized map of the Holy Roman Empire, divided into 100 provinces (Fig. 2). Fifteen provinces include cathedrals, and controlling 8 of them is one of the victory conditions, while seven represent "Free Cities" and provide economic bonuses. The game is divided into two distinct phases, mirroring the historical progression from initial religious tensions to open conflict. The first phase focuses on diplomatic expansion, representing the period of religious uncertainty and political maneuvering before open hostilities. Each turn, every player gains one “economy point” per province they own (plus two for every free city), secretly draws an event card, and covertly chooses a province adjacent to their realm they want to gain. Then, event cards and province choices are revealed simultaneously. Each player gains the province they chose; however, if two players chose the same province, they will have to auction it using economy points. Events add both unpredictability, conferring bonuses and maluses, and historical flavor and context. This phase lasts for seven turns.



Fig. 2 – Prototype with board, cards, 3d printed tokens, and rulebooks (different covers)

The second phase begins with the Sack of Rome in 1527, marking the transition to open religious conflict. Players reveal their religious affiliations, dividing into Catholic and Protestant teams. This phase introduces military conflict, with players recruiting militia and mercenaries (using economy points) to defend their territories and attack others. As in the first phase, plans for troop movements and military conquest are made covertly and resolved simultaneously. The combat system, using dice rolls modified by troop quality, simulates the uncertainties of 16th-century warfare. The game's victory conditions are tied to control of cathedrals (representing religious dominance) or territorial control (representing political dominance). The game's two-phase structure provides a clear narrative arc that follows the historical progression of the Reformation, from initial tensions to open conflict. This structure helps players understand the gradual escalation of religious divisions in the Empire. Moreover, the game's emphasis on the control of cathedrals as a victory condition highlights the central role of religious institutions in the power struggles of the period.

Both games were showcased at *Play – Festival del Gioco 2024*, Italy's foremost hobby gaming exhibition and the country's most significant tabletop gaming event. Demonstrations were offered to fair attendees, garnering interest and positive feedback from them.

Conclusions

The project yielded highly positive outcomes, particularly in terms of student engagement. Students were not only required to recall historical facts but also to critically engage with how these facts could be interpreted and presented in a format that was accessible to players. The activity provided a more interactive and engaging approach to understanding history, complementing the theoretical knowledge gained in lectures. Both groups demonstrated a remarkable level of involvement throughout the game design process. The students deepened their historical knowledge significantly, as the nature of the task required extensive research across multiple sources. More importantly, they faced the challenge of synthesizing complex historical information into a coherent and functional game concept. This synthesis process proved to be far more comprehensive than a traditional approach to studying history, as it compelled students to gain a deeper understanding of relationships, causal processes, and historical dynamics. Unlike the memorization of names, dates, and facts often associated with conventional study methods, this approach fostered a critical and enduring engagement with the material, moving beyond superficial knowledge retention for exams.

Moreover, during the playtesting phase, the students' awareness of their design errors increased significantly. This iterative process became a powerful learning tool, as the need to identify and correct mistakes led to a better understanding of game mechanics and historical representation. Playtesting not only helped refine the games but also enhanced the students' grasp of the historical

themes they sought to represent. Through this activity, students gained a deeper understanding of both historical content and the complexities of game design, all while developing valuable skills in teamwork, creative thinking, and independent project management.

However, certain limitations emerged throughout the project. The number of participants turned out to be higher than expected, leading to the formation of groups that were perhaps too large for optimal collaboration. Initially, it was thought that only a few students would be interested in the activity, but the high demand led to some challenges. In larger groups, a few students inevitably relied more heavily on the work of others, contributing less to the project. A final consideration is that not all students were familiar with board games prior to the project. While a few had some experience, many lacked a foundational understanding of game design. In hindsight, the introductory lessons might have been more effective had we included a broader introduction to various board games, allowing students to play some board games to explore different styles and mechanics before embarking on their own designs. This could have enriched their design ideas and provided a wider range of inspirations for their projects. Future iterations of this project could address these limitations and expand the scope by exploring gamebook making, a format that could further deepen students' historical analysis and narrative skills while offering a new medium for educational game design.

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