GBL in History Education: Insights from Dogs of War

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Abstract

Game-Based Learning (GBL) is increasingly recognised for its ability to enhance educational outcomes through interactive and immersive experiences. However, there is limited empirical data on its effectiveness in promoting historical thinking and Self-Directed Learning (SDL), particularly in history education.

This study examines the impact of the *Dogs of War* (DoW) card game on historical thinking skills and SDL among history student teachers. It also explores the potential of GBL to enhance history teaching by fostering critical analysis skills.

A qualitative research approach was employed, analysing playtest sessions with 15 history education students who played DoW. An open survey collected participants' experiences, focusing on the game's complexity, rule clarity, engagement level, effectiveness in conveying historical content, and stimulating interest in World War II history.

The DoW game effectively increased players' interest in historical subjects and promoted strategic thinking and problem-solving skills. While responses varied regarding the game's complexity and rule clarity, the study identified a need for modifications to

maximise educational benefits. Participants reported heightened motivation to explore World War II history further due to the game.

This study highlights the importance of GBL in history education, demonstrating its potential to improve historical thinking and SDL. Balancing challenge and clarity in game rules is crucial. Further research is needed to enhance game design and implementation for better educational outcomes in history and other fields.

Keywords: GBL; SDL; History education, World War 2, heuristics, historical thinking

Introduction

GBL is an educational strategy that integrates gameplay into the learning process, allowing students to engage with course material in an interactive and immersive environment. GBL has gained popularity for its ability to enhance motivation, critical thinking, and subject-matter retention by leveraging the engaging nature of games (Subhash and Cudney, 2018:192).

Games have played a role in education for thousands of years, starting with ancient civilizations such as Egypt and China, which used games like Senet and Go to teach strategy and problem-solving (Jabbar and Felicia, 2015:742). In more modern times, wargames became prominent in military education. The Prussian military, for instance, formalised wargaming in the 19th century with *Kriegsspiel*, a system designed to train officers in strategic thinking (Heede, 2020:12). These historical precedents demonstrate how games simulate complex real-world scenarios, enabling learners to engage deeply with content, which has been a foundational principle for the use of GBL in education.

In the context of the Grade 9 CAPS history curriculum, the game DoW directly aligns with its focus on developing historical understanding and critical thinking, particularly regarding World War II. The game's mechanics, which involve strategic decision-making based on real historical events, help students not only to learn factual information but also to engage with the causes, consequences, and ethical dimensions of historical conflicts. By embodying leaders and military factions, students are guided toward deep, inquiry-based learning that fosters historical empathy and problem-solving—core aims of the CAPS curriculum (Vlachopoulos & Makri, 2017:106).

Educators have been adopting innovative strategies to engage students and improve learning outcomes, notably through GBL which leverages the engaging nature of games (Subhash & Cudney, 2018:193). Card games, in particular, are favoured for their ability to develop critical thinking and deepen knowledge of subjects like history (Subhash & Cudney, 2018:194). An exemplar of this is "to engage students and improve learning outcomes, notably through GBL which leverages the engaging nature of games" (Subhash & Cudney, 2018:194). Card games in particular are favoured for their ability to develop critical thinking and deepen knowledge of subjects like history (Subhash & Cudney, 2018). An example of this is the DoW card game, designed to teach history through strategic play and SDL (SDL) (Jabbar & Felicia, 2015:745).

DoW serves as an exemplary GBL tool in the context of history education. It is designed to promote historical thinking, problem-solving, and SDL by immersing students in World

War II scenarios, where they take on the roles of military leaders making strategic decisions based on historical events.

Set during World War II, DoW allows players to engage with historical events and figures through strategic decision-making and resource management (Cheng & Milikich, 2023:16). Players take on roles as leaders of WWII factions, utilising trading card game mechanics to manage troops and resources, aiming to outmanoeuvre opponents. The game educates on WWII history and encourages players to learn independently through a tangential learning approach (Armstrong, 2004:22). Each card includes QR codes linking to detailed historical information, enhancing the educational experience.

The rules of DoW involve strategic card play where players control one of six factions from World War II. Each faction includes various unit types (land, air, and sea) and unique generals with special abilities. Players utilise these cards to manage resources, deploy units, and engage in combat. The objective is to defeat the opposing player's general by strategically using unit abilities, managing resources effectively, and leveraging faction-specific strengths and weaknesses. The game also includes special event cards that can influence the course of play, adding a layer of complexity and historical context to the gameplay.

This research examines how DoW serves as a pedagogical tool, promoting historical thinking and SDL among students. Analysis of feedback from history student teachers has provided insights into how GBL can be effectively integrated into history education (Gee, 2003:20; Subhash & Cudney, 2018:196). The study contributes to discussions on improving history teaching through innovative educational methods. Before engaging with *DoW*, students receive training on the game's mechanics and the embedded historical content. The game is integrated into a digital learning environment where students have access to necessary Information and communication technologies (ICTs), ensuring equitable participation. Moreover, the students' digital literacy is assessed, and additional support is provided to those requiring assistance in using the game effectively.

Therefore, this study aimed to answer the following research questions:

How does DoW foster historical thinking skills among students?

What is the impact of DoW on promoting SDL in the context of history education?

How do students interact with historical content through GBL environments?

Rationale

The motivation for this study arises from the increasing acknowledgement of the significance of historical thinking skills and SDL in the field of history teaching (Kusuma

et al., 2021:890). Historical thinking encompasses the meticulous examination of historical materials, the creation of historical narratives, and the assessment of historical interpretations (Cheng & Milikich, 2023:18). By actively participating in a card game that is centred on historical knowledge, students can enhance their skills in a dynamic and participatory setting (Ghannem et al., 2019:15).

Moreover, SDL has become a core skill in the modern educational environment, empowering individuals to independently manage their learning journey, establish objectives, and actively seek knowledge (Vero & Barr, 2023:2). Research has demonstrated that GBL enhances SDL (SDL) by empowering learners with control, offering feedback systems, and creating chances for introspection and metacognition (Kuran et al., 2018:96). This study aims to further our comprehension of how games might cultivate self-directed, lifelong, learning habits by examining the influence of the DoW card game on SDL (Holbert & Wilensky, 2014:57).

GBL is notable for its ability to use the natural engagement of games, offering dynamic and immersive learning experiences (Habgood & Ainsworth, 2011:172). This approach, moreover, provides a promising option in history education, where standard narrative methods may fall short of capturing the complexity of historical events. The DoW card game offers a valuable chance to assess its impact on promoting historical analysis and independent learning among history student instructors. DoW exemplifies an innovative convergence of gameplay and historical subject matter, providing a distinctive medium for the dissemination of historical knowledge (Vlachopoulos & Makri, 2017:108).

Therefore, investigating the efficacy of this game in fostering historical thinking and SDL (SDL) has consequences for designing curriculum, implementing instructional methods, and incorporating GBL in history classes (McCall 2016: 520), ensuring that games are developed within a context that appreciates the diverse roles and impacts of various stakeholders.

Problem statement

While GBL (GBL) is increasingly recognised as an effective educational strategy, empirical support, especially within history education, is limited and mixed (Kordaki & Gousiou, 2017:125). Historical thinking and SDL are essential for students to analyse historical narratives and sources effectively. However, the ability of games like the DoW card game to enhance these skills in history education has yet to be thoroughly investigated. This lack of evidence highlights the need for more empirical studies focusing on GBL's role in

developing historical thinking and SDL skills.

The existing research also lacks depth in understanding how students interact with historical content in game-based settings and how certain game elements may affect the development of these critical skills. Additionally, the potential of GBL to engage student teachers in a meaningful exploration of historical events, themes, and figures through gameplay is not well understood. This study seeks to fill these gaps by exploring the educational potential of the DoW game to enhance historical thinking and SDL among history student teachers.

The goal is to assess the educational value of the DoW card game and contribute to discussions on innovative methods for teaching history.

Literature review

Educational games, particularly card games, are recognised for fostering interactive learning, critical thinking, and problem-solving skills (Odenweller et al., 1998:78). They provide an active learning environment that boosts engagement and participation which is crucial for effective learning (Aburahma & Mohamed, 2015:59). Studies indicate that these games can enhance traditional teaching by making learning more interactive and enjoyable, thus improving retention and understanding (Fipps & Rainey, 2021:2535). Furthermore, card games have proven effective across various educational fields like biology and chemistry, aiding in complex subject comprehension and increasing student motivation (Su et al., 2014:505; Gutierrez, 2014:77; Camarca et al., 2019:2540).

GBL (GBL) offers significant benefits in numerous academic areas by improving engagement and facilitating deeper understanding (Gee, 2007:20; Boyle et al., 2012:97). In history education, GBL engages students with historical contexts, enhancing analytical thinking and empathy, and deepening their grasp of historical events (Van Eck, 2006:19; McCall, 2014:517). This review discusses the role of GBL in history education, particularly through games like 'DoW,' highlighting its impact on developing historical thinking and SDL capabilities.

Flow

Mihaly Csikszentmihalyi's concept of "flow" is highly relevant when discussing GBL (GBL), as it captures the state of deep engagement and absorption that players experience when the challenges of a game are perfectly matched with their skills. Flow is characterised

by complete immersion, a sense of control, and the merging of action and awareness, where players lose track of time and external distractions as they focus solely on the task at hand (Csikszentmihalyi, 1990:49). This is the ultimate goal of any game, whether analogue or digital, as it ensures that players are fully engaged with the content, leading to enhanced learning experiences (Subhash & Cudney, 2018:195). In the context of GBL, achieving flow can greatly enhance educational outcomes by fostering intrinsic motivation and deep cognitive engagement. Games like DoW are designed to elicit this state by balancing challenge and skill, encouraging students to be fully absorbed in the historical scenarios presented, which facilitates critical thinking and problem-solving (Jabbar & Felicia, 2015:744). Thus, engaging with Csikszentmihalyi's flow theory underscores the pedagogical value of GBL in creating optimal learning experiences.

Historical thinking and GBL

Students must possess historical thinking abilities to analyse historical content and develop significant interpretations of the past (Seixas & Morton, 2013:4). Educational games offer an interactive platform for cultivating these abilities through the simulation of historical events, enabling students to examine many viewpoints, evaluate data, and make well-informed choices (Levstik & Barton, 2015:3). The DoW game, which takes place during World War II, allows players to fully engage in historical storylines, make strategic choices, and contemplate the wider consequences of their actions in the game's universe (Squire, 2006:20).

By engaging in gameplay, students can cultivate essential historical thinking abilities, including historical empathy, causation, and contextualisation (Wineburg, 2001:23). Through the process of analysing primary sources, interpreting historical facts, and assessing conflicting accounts, individuals develop the ability to think critically about historical events and gain an understanding of the intricate nature of historical interpretation (Barton and Levstik 2004: 5). Moreover, the interactive character of educational games promotes active learning, motivating students to participate in inquiry-based activities, and cultivate a more profound comprehension of historical themes (Shaffer et al., 2005:106).

SDL and GBL

SDL (SDL) is a process in which learners assume control and accountability for their learning. This involves defining objectives, acquiring resources, and evaluating their

progress (Knowles, 1975:18). GBL environments are conducive to encouraging SDL (SDL) because they give players autonomy, choice, and possibilities for exploration and discovery (Gee, 2003:25). In the field of history education, games such as DoW give students the ability to have control over their own learning experience. This allows them to interact with historical material in ways that are in line with their individual interests and preferred methods of learning (McCall, 2012:1405).

By engaging deeply in historical narratives, undertaking thorough research, and working together with their peers, students can cultivate the skills and attitudes essential for continuous learning throughout their lives (Steinkuehler & Duncan, 2008:532). Educational games, due to their open-ended character, promote experimentation and risk-taking, enabling players to delve into historical subjects extensively and pursue their own paths of research (Squire & Jenkins, 2003:207). By engaging in gameplay, students cultivate metacognitive abilities, including the capacity to establish objectives and evaluate their own progress, which are crucial for SDL (Bereiter & Scardamalia, 1989:365).

Synthesising Historical Thinking and Self-Directed Learning

Combining historical thinking skills with SDL in GBL environments offers a powerful method for teaching history. Educational games like DoW enhance critical thinking, problem-solving, and metacognitive skills by immersing students in authentic historical analysis (Bender, 2009:50). In such games, students actively contribute to historical knowledge creation rather than passively consuming information (Reisman, 2017:1402).

Students take on various roles within the game, conduct research, and make decisions affecting historical outcomes, which helps them develop a deeper understanding of historical complexities and their role as proactive participants in society (Klopfer & Squire, 2008:205). GBL environments also promote engagement with historical topics, encouraging students to pose thoughtful questions, seek relevant information, and construct evidence-supported narratives (Clark et al., 2016:87).

This literature review highlights how GBL can enhance history education by fostering historical thinking and SDL. Games like DoW allow students to engage deeply with historical settings, leading to enhanced analytical skills and meaningful learning experiences (Shaffer et al., 2005:107). While GBL is promising as a modern educational strategy, further research is needed to assess its effectiveness across different settings and to find the best ways to integrate games into history education. This review aids in understanding

how GBL can be used to improve historical thinking and SDL, thereby enriching the educational experience in history classrooms.

Below is a table that summarises the key historical features in the DoW card game. These features were taken directly from the rulebook of the game. During the design phase of the game, the researcher focused on integrating WWII historical features into the game.

Table 1: Key Historical Features in DoW

Historical Feature	Description
Major WWII Events	Key battles, turning points, and significant events such as D-Day, Battle of Stalingrad, etc.
Historical Figures	Leaders and military figures, including their roles and impacts.
Military Strategies	Tactics and strategies used by different factions during key battles and campaigns.
Political Alliances	Formation and impact of alliances like the Allies and the Axis.
Economic Factors	Economic conditions and resource management.
Social Impact	Effects of the war on civilian populations, including home front activities and war propaganda.
Technological Advances	Innovations in warfare technology, such as tanks, aircraft, and naval vessels.
Cultural Aspects	Cultural changes and propaganda during the war era.
Post-War Consequences	Outcomes and aftermath of the war, including treaties, reconstruction, and geopolitical shifts.

Methodology

This study used a qualitative approach to explore how participants experienced the DoW card game as an educational tool, highlighting its instructional potential (All et al., 2016:92). It focused on qualitative methods to deeply understand players' views and preferences, employing playtest sessions within a history curriculum for student teachers (Hwang & Wu, 2011:267; Yu et al., 2014:9690). Participants provided feedback through a detailed survey designed to gather insights into their gaming experience and suggestions for improvements (Watson et al., 2011:470).

Fifteen third-year history student teachers participated, selected via convenience sampling (Kordaki & Gousiou, 2017:132; Lee et al., 2021:21). Data were collected using an open survey post-playtest, covering various aspects of the game experience and seeking in-depth responses (Jabbar & Felicia, 2015:745; Vlachopoulos & Makri, 2017:109).

The thematic analysis was conducted on the survey responses to identify patterns and themes, enhancing understanding of the game's impact on players (Tannahill et al., 2012:210; Kordaki & Gousiou, 2017:136). The study's validity was reinforced through careful data handling and methodological transparency, ensuring the findings' credibility, transferability, dependability, and confirmability (Wu & Wang, 2012:5; Watson et al., 2011:472).

Ethical approval was secured, participants gave informed consent, and measures were in place to protect their privacy and the confidentiality of their responses (Kuran et al., 2018:10; Kordaki & Gousiou, 2017:134).

The participants for this study were 35 third-year BEd history student teachers in a history education module which was based on the Second World War. These students who are training to be future history teachers were exposed to different forms of education technologies, one of which is game based learning tools like DoW. Since their interest in using such technologies was not gauged prior to the study, the program enhances the teaching strategies which include the use of digital and analogue games in the classroom.

Thus, the sample size of this study comprised of 35 students. To prepare for the use of DoW, they were given a brief on the rules, mechanics, and objectives of the game to enable them to use correctly to improve their knowledge of World War II content. The introduction offered an explanation of how the game fits the historical thinking and critical analysis skills and how it can be used in future classrooms. The total number of the students in the module was 35, which provided a broad range of opinions concerning the effect of the game on historical thinking and SDL.

The DoW game is mainly intended for use in higher education, particularly for teacher training and later on for implementation in Grade 9 classes. Using the game with undergraduate students, especially those pursuing history education, has two objectives. First, it enables future history teachers to play the game and assess it as a pedagogical tool to be able to use games in their classrooms in the future. These students are able to learn critical historical thinking skills by participating in the game, and gain better understanding of how this tool could be useful in a classroom to improve the students' learning. Second, this testing phase is useful to get feedback on the game mechanics as well as the content to make sure that all of these are in line with the Grade 9 Term 1 CAPS curriculum regarding World War II. The final target is to use DoW in Grade 9 history lessons and contribute to the better comprehension of historical events and concepts defined by the CAPS curriculum, as well as to enhance learners' autonomous learning and critical thinking skills. Hence, it is important that undergraduate students are involved in the testing phase to ensure that the game is ready for its intended target population of high school students.

Results and Analysis

The survey data obtained provides insights into the students' impressions of several game features, evaluated on a scale ranging from 1 (Very Easy) to 5 (Very Difficult). A total of 15 respondents provided ratings for each element for the data collected between 31 July 31 2023 and 25 August 25 2023.

While the study utilized a Likert scale to capture participant opinions, it predominantly focused on aspects such as rule clarity and engagement level. However, it is important to recognise that individual perceptions of difficulty may vary. For instance, one participant's rating of '5' for difficulty may differ significantly from another's rating of '5' for the same aspect. To address this limitation, future research could incorporate additional measures such as pre-assessment surveys of familiarity and experience with card games, and semi-structured interviews. These methods would provide a richer description of the interaction and help identify the underlying factors influencing participant responses. This approach would, moreover, enhance our understanding of the quantitative data and clarify the elements contributing to different reviewer ratings.

Question 1: Difficulty

The feedback from participants indicates that the DoW game is seen as moderately

challenging. Eight out of fifteen players had a neutral perspective on the game's difficulty, while four found it difficult, resulting in an average difficulty rating of 3.2. This aligns with prior research suggesting a preference for games with a moderate challenge level (Jabbar & Felicia, 2015:746). However, the varied responses also highlight potential issues with game accessibility and the learning curve.

Players found the game to be complex, with an average complexity score of 3.33, suggesting that while some managed well, others struggled. This indicates a need for balancing complexity to maintain player engagement without causing feelings of being overburdened (Ghannem et al., 2019:12). Opinions on the game's strategic depth varied, with an average score of 2.93 indicating it was seen as relatively straightforward, yet seven respondents found it easy to manage. This disparity points to potential gaps in the game's strategic elements, possibly affecting its depth and engagement (Kuran et al., 2018:15).

Player engagement through gameplay was highly rated, with eight players finding it easy to interact with others. This suggests that while social interaction is a strong point, it may also indicate a lack of complexity in player dynamics, potentially affecting long-term interest (Aleksić, 2019:284). Resource management was identified as the most challenging aspect, with six players finding it difficult and an average score of 3.13. This underscores the importance of effective resource management systems in strategy games to enhance player control and decision-making for a more satisfying experience (Jabbar & Felicia, 2015:748).

Question 2: Rules

The survey on the rules showed varied player experiences, from clear understanding to specific uncertainties. Seven participants found the rules clear, suggesting the rulebook effectively communicated key gameplay information. However, four encountered confusion, highlighting areas needing further explanation. Specific issues included difficulties with the mechanics of card sacrifice or discard and understanding the criteria for card power and interactions, indicating a need for more detailed guidance or examples. Challenges were also noted in navigating tokens and understanding currency mechanics. Despite these issues, most players found the rules to be clear or somewhat clear, affirming the rulebook's overall effectiveness. Yet, the presence of confusion among some players points to opportunities for improvement, particularly in clarifying complex game mechanics and enhancing rulebook clarity. Further analysis could help pinpoint the causes of confusion, whether due to language ambiguity, layout, or the intricacies of game mechanics.

Question 3: Attention

The playtest findings indicate that DoW captured the attention of a considerable number of participants. Curiosity, competitiveness, and strategy greatly affect player involvement. However, uncertainty among certain individuals suggests that clearer explanations of the game's rules and procedures could increase participation. Developers can improve user engagement and pleasure by removing accessibility barriers and boosting game success. Most respondents (13 out of 15) reported positive interest during the playtest, indicating that the game kept their attention. This means that many gamers enjoyed the gameplay. Curiosity about the game, its content, and its gameplay mechanics contributed to this positive attention. Fjaellingsdal and Klöckner (2017:5) agree with previous player engagement studies that curiosity and intrinsic motivation are crucial to long-term gaming enjoyment.

Competition and complexity are also important for player involvement. Scanlon et al. (2011:4) found that a player was motivated by the game's competitiveness, demonstrating that challenge and competitiveness can boost player engagement. Another player noted that the game's strategic features were highly fascinating, showing that anticipating and planning kept students interested.

Only two participants exhibited mixed or reduced interest, citing a lack of understanding of the game's rules and mechanics (Kuran et al., 2018:12). Despite showing little interest, the respondent was willing to learn and play. The resolution of comprehension barriers may lead to interest.

Question 4: Learning

Around 11 players said the game taught them about WWII. This suggests that the game educated a large portion of the player base about historical events. Four reported learning "a few things", indicating modest educational value. The group in question may not have learned as much new material as those in the "quite a lot" or "significant amount" categories, but their recognition of learning at least some information implies that the game enhanced their historical knowledge. A thorough analysis of the themes or facts players find most informative could improve the game's instructional components. Examining the key features of World War II history that impacted players can inform future game improvements by prioritising those factors (Ñриан & Griban, 2020:43). The potential correlations between players' prior knowledge of World War II and their self-reported learning outcomes may

reveal the game's efficacy for players with different degrees of expertise.

The results suggest that DoW has mostly succeeded in teaching participants about World War II. The game's intriguing gameplay and informative elements have helped gamers grasp this vital historical period. Further research and development could improve the game's pedagogical efficacy, ensuring its long-term instructional value.

Question 5: Engaging Elements

Game mechanics were identified as a prominent factor in engagement by the respondents. The mechanics mentioned by approximately one respondent include point calculation, card selection for defence, card flipping, and the strategic element of playing the strongest card. These factors enhance the interactive and dynamic nature of the gameplay, offering players chances for strategic decision-making and tactical manoeuvring (Lee et al., 2021:22). In addition, a small percentage of respondents found historical elements, such as the leaders of countries involved in World War II and the repercussions of the conflict itself, to be intriguing. Integrating historical content enhances the game experience by providing players with not just amusement, but also a chance to acquire knowledge and engage in introspection.

In addition, one respondent found competitive features, such as the excitement of battling against opponents, appealing. This implies that the competitive element of the game is essential in sustaining player engagement and drive throughout the gameplay (Jabbar & Felicia, 2015:747). Approximately two respondents found the game's rules and expectations engaging due to their clarity and simplicity. Explicit guidelines not only enhance comprehension but also enhance the fluidity and pleasurable nature of the gaming encounter. Players value having clear expectations and a comprehensive understanding of how to effectively engage in the game (Clark et al., 2016:92).

Question 6: Frustrating Elements

Game mechanics were also noted as a key concern for some players among the categories of frustration. One participant expressed irritation with certain elements of the game mechanics, such as obtaining coupons, making payments with two cards, and the distribution of resources with every turn. These frustrations may arise from intricacies or incongruities within the game mechanisms, emphasising places where simplification or elucidation may be required to improve user experience (Ke et al., 2018:1190). Furthermore, a single

respondent explicitly expressed frustration with the game rules. This is consistent with previous evidence that shows difficulties in comprehending the rules, implying that the game's design still needs development in terms of clarity and understandability.

In addition, another participant identified unclear instructions as a cause of annoyance. Although the game may provide enjoyment, ambiguous instructions can impede players' capacity to fully immerse themselves in and value the gaming encounter. This highlights the significance of offering unambiguous and easily understandable directions to promote seamless gameplay and optimise player contentment (Wu & Wang, 2012:7). Notwithstanding these sources of annoyance, a substantial majority of players (about nine participants) did not encounter any aspects of the game that were annoying or uninteresting. The affirmative reaction signifies widespread contentment with the game among the majority of participants.

Nevertheless, it is crucial to acknowledge that a small number of participants gave vague answers, such as responding with "Nope" or "N/A", which creates uncertainty regarding whether they had any issues or simply did not mention them. Obtaining additional clarification from these respondents could yield significant insights regarding their gaming experience and identify areas that can be enhanced.

Question 7: Motivation

Out of the identified categories of motivation, two respondents indicated a drive to get a strategic advantage in the game by enhancing their awareness of the historical context of World War II. Players' recognition of the correlation between historical knowledge and gameplay success indicates the educational worth of the game in improving strategic thinking abilities (Kuran et al., 2018:18). Moreover, three of the respondents were driven by the game's capacity to modify historical results, perceiving the possibility of constructing alternative histories as fascinating. Students were still being facilitated by the researcher while playing, to address any misunderstandings with alternative historical scenarios. This demonstrates an interest in hypothetical situations and the examination of many storytelling options, which can encourage analytical thinking and imaginative understanding of history in individuals who participate (Lee et al., 2021:22).

In addition, almost three respondents were motivated by their fascination with certain countries or alliances depicted in the game, suggesting a curiosity regarding the roles and interactions of different nations during World War II. This underscores the game's ability to ignite curiosity in particular historical subjects and promote additional investigation and

discovery outside of the game's virtual setting (Ghannem et al., 2019:11).

Around five respondents indicated a general curiosity or fascination with World War II, sparked by their engagement with the game. Although the exact reasons for this interest differed among the participants, the general agreement highlights the game's efficacy in promoting a wider involvement with historical material. Furthermore, two respondents stated that the game gave them a fresh viewpoint or enhanced comprehension of World War II, motivating them to actively search for more knowledge. This implies that the game has the capacity to provide distinctive perspectives on historical events, enhancing players' comprehension and admiration of the subject matter (Kuran et al., 2018:19).

All 15 participants explicitly stated that playing the game served as a powerful catalyst for their desire to acquire more knowledge about World War II. This clearly illustrates the game's significant influence in fostering enthusiasm and inquisitiveness among its players. The uniform interest in the game highlights its efficacy as an instructional tool and indicates its capacity to stimulate additional investigation and learning beyond the gaming encounter (Watson et al., 2011:470).

Questions 8 and 9: Comparison and Recommendation

Participants recognised the game's distinctiveness (four respondents), high engagement level (five respondents), and complexity (two respondents), indicating its novelty and potential to captivate learners (Ghannem et al., 2019:12; Lee et al., 2021:22; Vero & Barr, 2023:3). The requirement for strategic thinking (two respondents) and the game's effectiveness as an educational tool (two respondents) were also praised, demonstrating its value in enhancing cognitive skills and historical knowledge (Yu et al., 2014:9691; Kuran et al., 2018:19).

Feedback for improvement included the need for clearer rules (six respondents), gameplay alterations for added excitement (three respondents), and better integration of educational content (one respondent). However, a notable proportion (four respondents) expressed satisfaction with the game in its current state.

The data suggests that while the game is well-received as a learning aid, refining rules, gameplay, and educational content could further its effectiveness and educational impact (Gee, 2003:23; Shaffer et al., 2005:109; Wideman et al., 2007:15; Jabbar & Felicia, 2015:748).

Discussion

The analysis of participants' responses to the DoW game's difficulty level underscores the delicate balance required in GBL environments to optimise educational outcomes. Research suggests that a game's challenge level significantly influences engagement and motivation; too little challenge can lead to disengagement, while excessive difficulty may induce frustration and hinder learning progression (Silva et al., 2017:78; Power et al., 2019:45). Participants' varied perceptions of difficulty highlight the importance of tailoring challenges in educational games to enhance critical thinking, problem-solving skills, and persistence. Consequently, adjusting the difficulty to provide a supportive yet challenging learning environment is crucial for fostering self-efficacy, motivation, and a sense of mastery among learners, thereby maximising the educational effectiveness of GBL.

The clarity and coherence of game rules are vital for ensuring that students grasp the intervention's objectives and mechanics, fostering a level playing field and promoting fairness within the educational setting (Garris et al., 2002:458; Wouters et al., 2013:23). Clear, well-defined rules not only structure the learning environment but also drive student motivation and engagement by presenting challenges that are both stimulating and achievable, thus encouraging active participation and perseverance (Annetta, 2008:34; Wang & Yao, 2022:55). Moreover, by delineating constraints and objectives, game rules enhance critical thinking and decision-making skills, as students must strategise and make informed choices to navigate the game effectively (Dhatsuwan & Precharattana, 2016:191; Brennan, 2019:89). This structured interaction and rule-based decision-making are instrumental in improving cognitive abilities and overall learning outcomes, highlighting the importance of meticulously designing game rules to maximise the educational effectiveness of GBL.

Our analysis also highlights the importance of maintaining student interest in GBL to enhance the learning experience and attain outcomes. Engagement, enthusiasm, and motivation are fundamental, as they significantly impact student participation and learning performance (Wang, 2015:37; Hamari et al., 2016:302; Licorish et al., 2018:62). Sustained student interest is essential for long-term engagement and learning retention, with studies showing that situational interest triggered by games can evolve into individual interest, encouraging students to reengage with the learning activities over time (Kiili et al., 2021:210). Designing GBL interventions that captivate students' interest is thus crucial for creating effective learning environments that support enhanced learning and achievement.

Feedback on the game illustrates the critical role of effectively conveying subject

matter in GBL to enhance student outcomes. Studies show that interactive games improve learning over traditional methods by encouraging active engagement with the content (Vogel et al., 2006:230; Sitzmann, 2011:664). Moreover, incorporating subject matter into game scenarios allows for a deeper understanding and application of knowledge (Corredor, 2018:19). A balance between educational content and gameplay ensures enjoyable and effective learning experiences, leading to better engagement and knowledge acquisition (Juveng, 2019:31; Yang & Hsuan-Yu, 2018:110). Therefore, identifying, integrating, and conveying educational content into games is essential for promoting active learning and improving student outcomes.

Incorporating features that boost engagement, motivation, and enjoyment, such as challenges, rewards, and interactive gameplay, can deeply immerse students, keeping their interest peaked and motivation high (Habgood & Ainsworth, 2011:175; and Jabbar & Felicia, 2015:747). These elements, by stimulating both cognitive and affective engagement, foster an optimal learning environment conducive to active participation and knowledge retention (Ke et al., 2015:293; Alserri et al., 2018:12). Effective GBL design, blending entertainment with educational content, not only heightens student interest but also promotes deeper learning and skill development across various educational fields (Fanfarelli, 2019:45; Kiili et al., 2021:209). Moreover, engaging GBL interventions cater to various learning styles and preferences, creating authentic, interactive experiences that encourage collaboration and problem-solving, thus enhancing engagement and facilitating meaningful learning (Li, 2020:17; Stohlmann, 2022:39). Therefore, the strategic incorporation of engaging elements is crucial for enhancing student engagement, motivation, and overall learning outcomes, underscoring the need for educators to develop games that are both entertaining and educational.

Key to capturing learners' interest and stimulating intrinsic motivation are elements like challenges, rewards, and immersive gameplay (Кайрат, 2020:65; Toquero et al., 2021:83; Bennis et al., 2022:112). To sustain motivation, it is crucial for educators to incorporate games that harmonise entertainment with educational value, incorporating meaningful challenges and immediate feedback to support ongoing engagement and learning progression (Hwang et al., 2014:210; Gamlo, 2019:59). Moreover, adding social elements, customisable content, and gamified features can further elevate motivation and maintain learners' interest (Ji, 2017:91; Liu et al., 2020:301). Integrating GBL with experiential activities and interactive interfaces enhances motivation and engagement, encouraging active participation and skill development (Zahra et al., 2022:18; Shen, 2023:31). Utilising analytics and learning technologies allows educators to tailor GBL

experiences to individual needs, optimising learning outcomes. Thus, GBL, through engaging and interactive experiences, promotes deeper learning engagement by nurturing motivation and enjoyment.

While the sample size of 15 participants is small, this study's qualitative data can go a long way in helping us construct theoretical models and schemas pertaining to player experience in GBL. While the results presented herein focus upon findings specifically related to a CCG game, there still may be some transferability of observed principles of engagement, thinking historically and SDL that could guide educational efforts in other types of games.

Therefore, the paper answers the following research questions:

How does the DoW card game facilitate the development of historical thinking skills among history student teachers?

The game facilitates historical thinking by requiring students to make strategic decisions based on real historical events, encouraging them to analyse causes and effects, reflect on consequences, and engage with historical narratives critically.

What is the impact of GBL on the SDL abilities of participants within a historical context?

DoW promotes SDL by allowing students to explore historical content independently, make decisions, and seek additional information beyond the game. This autonomy fosters deeper engagement and independent inquiry into historical topics.

How do players perceive the effectiveness of DoW in combining gameplay with historical content for educational purposes?

Players generally perceive the game as an effective educational tool, noting that the integration of gameplay with historical content enhances their understanding of World War II while making the learning experience engaging and interactive.

Historical Engagement and Learning through Gaming (HELG) Model

To understand how such games can help in the learning of history, the Historical Engagement and Learning through Gaming (HELG) Model was proposed. This model relates to the article since it offers a theoretical foundation that explains how games may contribute to historical thinking as well as self-regulated learning, which are both goals of the study. This paper is valuable to the understanding of how the game can be used to simulate historical events, and thereby foster critical thinking, decision making, and reflection skills which are important in any learning process.

The applicability of the HELG Model can be explained by the fact that it can assist in the development and evaluation of educational games. In this study, it helps reveal how DoW contributes to the improvement of the students' interest, motivation, and performance, which is critical when it comes to analysing the overall effect of GBL in history teaching and learning.

Integration of Educational Content

The HELG Model integrates history seamlessly into gameplay, ensuring an effective learning experience within an interactive medium. It emphasises objectivity and historical accuracy, working closely with credible historians to maintain high standards. QR codes and external resources enhance learning by providing additional educational materials.

Gameplay Design

The model balances complexity and user accessibility, making it suitable for both newcomers and seasoned players. Basic rules facilitate easy entry, while strategic depth challenges experienced players, keeping the game engaging and enjoyable.

Historical Accuracy and Authenticity

Collaboration with historian partners ensures that themes in DoW are historically accurate and meet high standards. Detailed historical narration on engine technology, weapons, and biographies deepens players' understanding and engagement with the game.

Historical Accuracy and Authenticity

One of the most important qualities of the HELG Model is ensuring historical accuracy and authenticity. By working closely with historian partners, the themes in "This Land Is My Land" are not only historically accurate but consistently meet a high standard. Players can dive deeper into the story behind engine technology, weapons, and biographies through detailed historical narration, making these elements even more captivating.

Motivation & Engagement

The model uses game mechanics that make players interact with elements they love. Competitive and cooperative elements, various rewards, and challenges create a community atmosphere, keeping players engaged with the learning process.

Flexible and Individualised

The HELG Model offers choice and flexibility, providing varying levels of challenge based on students' needs. There are multiple pathways and historical scenarios for players to explore, helping them connect learning experiences to their own interests.

Feedback and Reflection

An essential part of the model is delivering real-time feedback, promoting reflection on learning. Players are encouraged to deal with history by weighing perspectives and power structures. Debriefing sessions and discussion guides are provided to help players discuss the historical context they experienced during gameplay.

Research & Collaboration

The model promotes historical research by partnering with historians, educators, and content experts. Player and educator feedback is continuously collected and considered for game improvements. Collaborative play is encouraged, pushing players to work together on research and problem-solving tasks within the game.

Recommendations

Further research should be done on class-based experiences with a view of finding the experience of learners and teachers in using DoW in Grade 9 history classes. It would indicate how the game affected students' interest, motivation, and historical analysis. The teachers' view may also help in establishing the extent to which it is an effective teaching tool.

Also, the effect of the game on assessment should be examined. DoW can be used for developing critical thinking skills and decision-making that can be applied to formative assessments which are not mere the memorisation of facts and dates. Through the use of motivation that results from GBL, there is a possibility that the game could positively impact the academic achievement of students, hence being a useful tool in teaching and learning history.

Conclusion

The feedback generated from participants on the DoW game suggests potential as an enjoyable educational tool for World War II learning, this study is subject to limitations including a small sample size and reliance upon subjective survey data. While the mechanics and historical content would certainly appeal to players, one should not overgeneralise these responses as definitive indicators of how a game experience may be used as an educational tool. Given the response, we suspect that many would enjoy a deeper dive of looking at historical context—seeing how this could be possible to use as an educational resource. But critiques, like suggestions for clearer rules or game mechanics that are more effectively woven into the educational content, show where there is room to make DoW better. To further expand on the findings, longer and more detailed player experiences should be sought out by means of including pre-assessment surveys to inquire about participants' background with card games as well as qualitative interviews that can shed light on how players perceived different elements present in DoW. Also, more expansive and heterogeneous samples are needed to confirm these consequences in extended games of different game types. Overall then, the study results presented above indicate that while it holds potential as an instructional intervention for fostering historical thinking and SDL behaviours among those who play it is certainly suggestive of that—interpretive caution is warranted concerning the DoW game. Thus, more research on game design and implementation mechanisms is needed to improve the educational effects of history

education using games (and other subjects) in the learning context.

Developers could use this feedback to refine the DoW game, enhancing its appeal and educational quality. By aligning with GBL principles, they can improve the game's impact, making it more immersive and educational.

This analysis suggests a framework, the Historical Engagement and Learning through Gaming (HELG) Model, for developing educational games that not only entertain but also significantly enhance learning outcomes in history education. This model is crafted from key components identified as vital for the success of educational games, aiming to optimise historical thinking and SDL.

Use of Generative AI

Quillbot was used to help refine text into manageable portions for the manuscript.

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