

# Review of Gamification Approach in Legal Studies

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## ABSTRACT

The integration of gamification in legal studies has garnered attention as a potential strategy to enhance engagement and learning outcomes within a complex field of study. This systematic literature review examines the application of game-based learning techniques in legal education, addressing the need for an up-to-date overview of the effectiveness of gamification in this context. The study employed the PRISMA framework, analysing 27 scholarly articles sourced from Scopus and Web of Science between 2023 and 2024. The finding was divided into three themes: (1) Game-Based and Experiential Learning in Education, (2) Law, Ethics, and Governance in Education and (3) Social Responsibility, Adaptation, and Inclusion in Education. The findings categorise current research into three primary themes: educational impact, cognitive engagement, and ethical awareness. Quantitative analysis indicates that gamification significantly improves student motivation, comprehension, and skill retention, with reported enhancements in engagement levels averaging 20% across studies. Additionally, cognitive-based models facilitate context-driven learning that strengthens legal knowledge and ethical competencies. Conclusively, this review highlights the potential of gamification to advance interactive and practical learning experiences in legal studies, while emphasising the need for continued research to establish best practices and address challenges in the ethical implementation and curriculum alignment.

**Keywords:** Gamification, Legal Studies, Construction

## INTRODUCTION

Integrating gamification into legal studies represents a novel and promising approach to enhancing the educational experience. Gamification, which involves applying game design elements in non-game contexts, has been successfully implemented in various fields, including education, management, and marketing (Feng, Gao, and Zhang, 2022; Negruşa et al., 2015; Reis et al., 2020). However, its application in legal education remains relatively unexplored (Bolesina and Gervasoni 2021; Ferguson 2016). This introduction provides an overview of the potential benefits and challenges of gamifying legal studies, drawing on recent research to highlight key findings and implications.

Recent studies have begun to explore how gamification can be leveraged to improve the quality of legal education. For instance, a systematic review has examined the incorporation of game design elements into online legal courses, suggesting that gamification can enhance student engagement and learning outcomes (Kim and Castelli 2021). This review highlights the connection between gamification and other digital education techniques, offering a comprehensive overview of the current state of research in this emerging field. Despite the diversity and complexity of concepts and methodologies, the study underscores the potential of gamification to advance legal education.

Moreover, the application of gamification in legal contexts extends beyond education to include legal procedures and public engagement with the law. Research has shown that game mechanics can make legal processes more accessible and engaging for individuals without a legal background (Konstantinov, 2022). Gamification can foster a deeper understanding and interest in legal matters by introducing elements such as competition, collaboration, and game fiction (Gil-Acíró, 2022; Koivisto & Hamari, 2014; Krishnamurthy et al., 2022; Rahmani, 2020; Zahra, 2020). This approach not only enhances

the learning experience for law students but also has the potential to democratise legal knowledge and participation (Ben Chester Cheong, 2023; García, 2022; Hinton et al., 2019; Yuratich, 2021).

The gamification of legal studies offers a multifaceted approach to improving legal education and engagement. While empirical studies have demonstrated the effectiveness of gamification in enhancing cognitive, motivational, and behavioural learning outcomes (Sailer and Homner, 2019), further research is needed to understand the factors contributing to successful implementation fully. As the field continues to evolve, it is essential to explore innovative strategies and methodologies to fully harness the potential of gamification in legal education and beyond.

## LITERATURE REVIEW

The literature on gamification in legal studies has gradually emerged, with a growing focus on integrating interactive techniques to support skill acquisition and enhance engagement in various educational contexts. Vargas and Magnussen (2022) emphasise the value of a game-based framework in legal education through Open Data platforms, which allow students to connect legal theory with real-world data. This approach is particularly beneficial in legal studies, where access to actual cases and legal data often enhances students' understanding of complex legal issues. The Open Data Gamified Education Framework, outlined by Vargas and Magnussen, includes eight essential actions that provide students with authentic learning experiences, connecting classroom learning with practical, real-world applications. Similarly, Cheong (2023) highlights the effectiveness of gamification in engaging law students by incorporating digital tools and interactive learning strategies tailored to adult learners, which has improved student interest and practical skill development. The use of these methods aligns with emerging pedagogical trends in legal education, encouraging students to participate actively in their learning processes, fostering not only engagement but also a greater understanding of legal concepts (Cheong 2023; Nagovitsyn et al. 2021; Vargas and Magnussen 2022).

However, while the gamification approach offers promising outcomes, several challenges remain. For instance, the work by Nagovitsyn et al. (2021) on legal competence formation for future educators shows the need for structured and curriculum-aligned didactic games, especially in settings outside traditional classroom hours. This study emphasises the importance of striking a balance between gamified activities and academic responsibilities, underscoring that legal training requires a careful blend of interactive content and theoretical foundations. Similarly, Oksana et al. (2022) emphasise the importance of digital competence for educators, noting that gamification tools like Kahoot and Quizlet provide engaging avenues for learning but also require careful adaptation to meet the unique needs of legal education. While both studies illustrate the effectiveness of gamified strategies in enhancing student motivation and skill-building, they also indicate that more research is needed to optimise these tools for legal studies, considering the unique ethical, regulatory, and analytical requirements (B C Cheong 2023a; Nagovitsyn et al. 2021; Oksana et al. 2022).

Moreover, several studies highlight both the potential and the risks associated with gamification, particularly in terms of data privacy and ethical considerations. Azevedo, Guerra, and Azevedo (2022) discuss the legal and ethical issues linked to gamification in education, particularly the challenges of safeguarding student data in digital environments. This perspective is crucial in legal education, where students are exposed to sensitive case data and other legal information that requires careful handling. Azevedo et al. advocate for a regulatory approach to gamification, recommending that educators prioritise addressing data collection and user privacy on gamified learning platforms. Similarly, Yari, Mäses, and Maennel (2020) explore the challenges of creating secure, cloud-based gamified and cybersecurity training environments. These studies collectively suggest a gap in the current literature regarding the specific regulatory frameworks needed to support secure gamified learning environments, which is particularly relevant in legal education due to the sensitivity of legal data involved (Azevedo et al. 2022; Oksana et al. 2022; Yari et al. 2020).

The integration of gamification in educational settings has expanded significantly, including in legal

studies, where its impact is increasingly being noted. When applied within the context of legal studies, gamification seeks to enhance engagement, critical thinking, and retention through the use of interactive digital tools. Tobarra et al. (2021) present a notable example with the CyberScratch project. This gamified, cloud-based platform leverages cybersecurity scenarios for educational engagement. This project emphasises data privacy within a gamified learning framework, complying with GDPR and employing xAPI standards to track and support student interactions across the platform. Similarly, Monauni and Götte (2023) demonstrate how simulation-based learning can enhance student motivation and learning outcomes, offering structured online environments that promote critical engagement—a principle applicable to both legal and general education contexts. Vargas-Vargas-Murillo, Pari-Bedoya, and Guevara-Soto (2023) further add that ethical considerations surrounding A.I. integration, such as ChatGPT, must be addressed to balance its educational benefits with ethical implications. This aspect could influence the responsible implementation of gamified methods in legal studies.

Adopting gamification in legal studies also highlights the strengths and limitations of existing implementations. Thangavelu et al. (2022) identify strengths in the ability of gamified platforms to develop competencies and enhance knowledge and skill retention, particularly in nursing education. This parallels the benefits seen in legal studies, where students can experience simulated courtroom scenarios or engage in legal processes. However, Thangavelu et al. note challenges in ensuring that game-based learning translates effectively into professional skills. This limitation is similarly addressed by Tobarra et al. (2021), who focus on data privacy within gamified education, suggesting that secure, well-regulated platforms are essential for compelling learning experiences. Monauni and Götte (2023) observe that while online simulations provide flexibility, they require students to have high self-motivation and organisational skills, which are potential obstacles for some learners. These studies collectively reveal a nuanced landscape of gamification's strengths, where enhanced engagement and retention are balanced by the need for student preparedness and robust data security.

An assessment of current research highlights several potential gaps within the gamification approach in legal studies. Notably, there is a lack of empirical studies that evaluate the long-term effects of gamified learning on students' career readiness and ethical reasoning within the context of legal frameworks. Monauni and Götte (2023) suggest that while gamification can motivate and engage students, studies must investigate whether these skills persist after graduation. Additionally, Tobarra et al. (2021) highlight the importance of data privacy and its implications for educational gamification. Vargas-Murillo et al. (2023) highlight ethical concerns around AI usage, calling for more research into how such tools influence legal education specifically. Addressing these research gaps would provide a clearer picture of gamification's long-term efficacy in developing competencies relevant to legal practice.

This analysis underscores the importance of current and future research in improving gamified legal education. Thangavelu et al. (2022) argue for increased rigour in evaluating digital tools' effectiveness in professional competency development, which applies to legal studies where critical thinking and procedural knowledge are paramount. Similarly, Tobarra et al. (2021) suggest that gamified platforms should integrate more sophisticated privacy protocols to align with regulatory requirements, particularly since legal education often involves handling sensitive data. Research by Monauni and Götte (2023) calls for a more in-depth understanding of how self-directed learning impacts long-term skills retention. These studies collectively emphasise that while gamification has promising applications in legal studies, there is a need for more comprehensive research to optimise its use and assess its impact on students' professional development.

Recent trends in integrating gamification into legal studies indicate a growing interest in employing interactive and engaging teaching tools within traditionally rigid legal curricula. The emphasis on "serious games" in legal education aims to improve student engagement, conceptual understanding, and skills development, as suggested by multiple studies (Gulyamov et al., 2023; Palmquist et al., 2021; Vargas-Murillo et al., 2023b et al., 2023). For instance, Vargas-Murillo et al. (2023b) conducted a systematic review that highlighted game design principles within online legal courses to

enrich educational experiences. However, they observed inconsistencies in application methods across studies. Palmquist et al. (2021) examined gamification from an ethical perspective, noting that while it enhances engagement, the potential for excessive behavioural manipulation warrants a cautious design approach. Gulyamov et al. (2023) emphasised the importance of integrating collaborative learning and simulations to enhance legal competency, advocating for the use of gamified content to improve students' practical legal skills.

The gamification approach in legal studies appears to face methodological challenges, which several scholars have acknowledged. In studying frameworks for gamification, Debello et al. (2022) introduced the "Escape the Classroom" (E.T.C.) paradigm in cybersecurity education demonstrating gamification's potential for enhancing engagement and knowledge retention. However, E.T.C.'s resource demands present logistical barriers to broader implementation. This was further examined by Vargas-Murillo et al. (2023b), who noted that the methodological diversity in gamification research, with few standard metrics for success, weakens comparisons across studies. These challenges suggest that future research needs to establish cohesive, flexible, and ethically aligned gamification strategies tailored for legal education, with standardised success indicators.

Although existing studies underscore the potential benefits of gamification, significant knowledge gaps remain, particularly regarding legally specific outcomes and ethical constraints. For instance, the study by Stevens, Dedushkov, and Ionoescu (2023) in design education exemplifies the utility of gamification in addressing complex ethical issues in user-oriented contexts. However, it reveals a lack of primary research on legal student outcomes. Similarly, Gulyamov et al. (2023) pointed out that achieving continuity in student skill development remains challenging without a standardised curriculum for cyber law education. As a result, future studies could benefit from focusing on real-world legal applications, such as courtroom simulations and legislative drafting exercises, to directly and ethically measure the impact of gamification on legal skills.

Assessing the strengths and weaknesses in the current body of research on gamification in legal education reveals both promising insights and areas that need refinement. Seah (2020) explored the benefits of using Kahoot in law education, particularly targeting adult learners with diverse abilities and emphasising differentiated instruction. While this approach enhances engagement, Seah noted limitations in content complexity and scalability, a concern echoed by Palmquist et al. (2021). This review supports the potential of gamification for fostering engagement, skill development, and pedagogical effectiveness in legal studies, while also highlighting recurring challenges, including ethical concerns, methodological inconsistencies, and limited empirical evidence on legal-specific outcomes. Future research should focus on developing cohesive frameworks to address these issues, thereby facilitating the sustainable integration of gamification in legal education. By aligning gamification strategies with the unique demands of legal training, educators can bridge the gaps identified in these studies and foster a dynamic, ethically sound, and outcome-focused learning environment. Exploring ethical dilemmas remains essential, as Danielsson and Hyams-Ssekasi (2022) discuss interdisciplinary approaches that could bridge business and legal education through collaborative gamification. However, they noted substantial institutional barriers and a lack of standardised curricula, underscoring a standard limitation: gamified legal education often lacks structured frameworks adaptable to various skill levels while addressing ethical concerns. While gamification has the potential to enhance motivation and engagement in legal education, it also raises important ethical concerns. The simplification of legal scenarios into game mechanics may risk distorting the seriousness of legal principles or promoting surface-level understanding. Moreover, there is a need to ensure that such platforms uphold fairness, avoid bias, and respect data privacy when tracking student performance. Therefore, any integration of gamification into legal curricula must be approached with a careful balance between pedagogical innovation and ethical responsibility.

## Research Question

Research questions are essential in a systematic literature review (S.L.R.), as they establish the



foundation and direction for the entire review. By defining the scope and focus, they help decide which studies to include or exclude, ensuring the review is relevant and specific to the topic. Straightforward research questions also promote a thorough and systematic literature search, covering all pertinent studies related to the topic and minimising potential bias, which supports a complete overview of existing evidence. Additionally, they aid in organising and categorising data from the included studies, providing a structure for analysis and synthesis to draw meaningful conclusions. Well-crafted research questions bring clarity and focus, preventing ambiguity and keeping the review centred on specific issues, thus making the findings more actionable and relevant. Furthermore, they enhance transparency and reproducibility, enabling other researchers to replicate or extend the review process. Overall, research questions ensure that the review aligns with its primary goals, whether identifying literature gaps, assessing intervention effectiveness, or exploring trends, making them the backbone of a rigorous, focused, and valuable S.L.R.

Defining the Research Questions (R.Q.s) is the most critical activity in the planning phase and the most essential aspect of any systematic literature review (SLR), as it shapes the entire review methodology (Kitchenham, 2007). Given that the objective of our S.L.R. is to identify and analyse the state of the art, the PICO framework—a mnemonic tool designed for formulating research questions, especially in qualitative research (Lockwood et al. 2019)—was applied in this study. PICO represents Population, Interest, and Context. Using the PICO framework helps to structure research questions clearly and systematically by dividing the study's key elements into these three components. This approach ensures a focused direction and well-defined questions, simplifying the search for relevant literature or the design of a study. This study resulted in three research questions, outlined below:

1. How does game-based learning influence the development of critical thinking and problem-solving skills among students in higher education?
2. How can gamification enhance law students' ethical awareness and understanding of governance principles?
3. How does gamified experiential learning promote social responsibility and inclusivity among diverse student populations in legal studies?

## MATERIAL AND METHODS

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, as outlined by Page et al. (2021) is a widely recognised standard for conducting systematic literature reviews, ensuring transparency, thoroughness, and consistency throughout the process. By following PRISMA guidelines, researchers enhance the accuracy and rigour of their analysis, as these guidelines provide a structured approach for systematically identifying, screening, and including studies in a review. This method also emphasises the value of randomised studies, which help reduce bias and offer strong evidence for the review. In this analysis, two major databases, Web of Science and Scopus, were selected due to their extensive coverage and reliability.

The PRISMA approach comprises four main stages: identification, screening, eligibility assessment, and data extraction. In the identification stage, databases are searched to capture all relevant studies. Next, the screening phase involves assessing these studies against predefined criteria to exclude irrelevant or low-quality research. In the eligibility stage, remaining studies are carefully evaluated to ensure they meet inclusion standards. Finally, data abstraction involves extracting and synthesising data from the included studies, which is essential for deriving robust conclusions. This systematic method upholds rigour in the review, yielding reliable results that can inform future research and practice.

### Identification

This study employed key steps in the systematic review process to gather a substantial body of relevant

literature. The process began with selecting keywords and then identifying related terms through dictionaries, thesauri, encyclopedias, and previous research. All pertinent terms were compiled, and search strings were created for use in the Web of Science and Scopus databases (as outlined in Table 1). This initial phase of the review yielded 1,268 publications relevant to the study topic from the two databases.

Table 1: The search string.

Scopus	<p>TITLE-ABS-KEY ( ( gamification OR "game-based learning" OR game ) ( legal OR law ) AND edu* ) AND ( LIMIT-TO (P.U.B.Y.E.A.R., 2023 ) OR LIMIT-TO (P.U.B.Y.E.A.R., 2024 ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( PUBSTAGE , "final" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )</p> <p><b>Date of Access:</b> March 2025</p>
WoS	<p>( gamification OR "game-based learning" OR game ) ( legal OR law ) AND education (All Fields) and Open Access and 2024 or 2023 (Publication Years) and Article (Document Types) and English (Languages)</p> <p><b>Date of Access:</b> March 2025</p>

## Screening

In the screening stage, potentially relevant research items are evaluated to ensure alignment with the predefined research question(s). During this phase, research items involving gamification in legal studies are prioritised, and duplicates are removed. After initially discarding 1,196 publications, 72 papers remained for further analysis based on specific inclusion and exclusion criteria (see Table 2). The primary criterion was literature value, including sources such as book series, book reviews, meta-syntheses, meta-analyses, conference proceedings, and chapters not covered in the most recent study. Only English-language publications from 2023 to 2024 were included. Ultimately, nine additional publications were excluded due to duplication.

Table 2: The selection criterion is searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2023 – 2024	< 2022
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

## Eligibility

In the third step, the eligibility phase, 66 articles were selected for review. At this stage, the titles and core content of each article were closely examined to confirm they met the inclusion criteria and aligned with the current research objectives. Consequently, 36 articles were excluded as they were outside the field, had irrelevant titles, lacked full-text access, or were not grounded in empirical evidence. This left a total of 27 articles for the upcoming review.

## Data Abstraction and Analysis

In this study, an integrative analysis served as one of the key assessment strategies to examine and synthesise various research designs, particularly quantitative methods. The primary objective was to identify relevant

topics and subtopics. Data collection was the initial stage in developing the theme. As illustrated in Figure 2, the authors thoroughly analysed a set of 27 publications, focusing on content related to the study's core topics. Subsequently, a review of significant studies on gamification approaches in legal studies was conducted, examining both methodologies and research outcomes. The lead author collaborated with co-authors to develop themes grounded in the study's context, maintaining a log throughout the data analysis process to record observations, perspectives, questions, and insights relevant to data interpretation. Finally, the authors compared findings to identify any inconsistencies in theme development, discussing any conceptual differences to reach a consensus.

Table 3: Number and details of Primary Studies Database

No	Authors	Title	Year	Journal	Scopus	WoS
1	(Mondal and Maity 2023)	Exploring The Effects of Game-Based Learning	2023	Journal Of Engineering Education Transformations	√	
2	(B C Cheong 2023a)	Teaching And Engaging Adult Law Learners In A Singapore Business Law Class—A Reflection Of Legal Teaching Strategies	2023	Asian Journal of Legal Education	√	
3	(Gwiazdowicz, Matulewska, and Piskorski 2023)	The Ban on Participation of Children and Teenagers In The Hunt In Poland – A Case Study Of Parliamentary Law Enactment Process And Its Consequences	2023	International Journal for The Semiotics Of Law	√	
4	(Rossler, Foster, and Suttmoeller 2023)	The Influence of Conservation Agency Resources on Officer Entry and Training Requirements	2023	International Journal of Police Science and Management	√	
5	(Bibik et al. 2023)	Professional English Language Education Model Developed Using Cognitive and Practical Methods	2023	Journal Of Research In Applied Linguistics	√	
6	(Kolodiziev et al. 2023)	Social Responsibility of Higher Education Under Martial Law	2023	Ikonomicheski Izsledvania	√	
7	(Kalekin-Fishman and Hagoel 2023)	Primary School Children Voicing Their Concerns: Practising Participatory Citizenship as Experiential Learning	2023	Citizenship Teaching And Learning	√	
8	(Pageau-St-Hilaire 2023)	Play And Moral Education in The Choruses of Plato's Laws	2023	Apeiron	√	
9	(Medero et al. 2023)	Collaborative Design of Audio-Visual Materials In Political Science And Administration	2023	Contemporary Educational Technology	√	
10	(Liu et al. 2023)	An Analysis of The Decision-Making Behaviour of Three	2023	Public Policy and	√	

		Interested Parties in The Process of Private University Education Reform;		Administration		
11	(Lekea, Lekeas, and Topalnakos 2023)	Exploring Enhanced Military Ethics and Legal Compliance Through Automated Insights: An Experiment On Military Decision-Making In Extremis	2023	Conatus - Journal Of Philosophy	√	
12	(Yang et al. 2023)	Evolutionary Analysis of Stakeholder Behavior In Green Retrofitting Of Traditional Residential Buildings Based On Dissemination And Game Models	2023	Plos O.N.E.	√	
13	(Chen, Law, and Huang 2023)	Adaptive Scaffolding and Engagement In Digital Game-Based Learning	2023	Educational Technology Research And Development	√	
14	(PaŁosz 2023)	Rule-Creating Activity Of EVE Online Players	2023	Archiv Fur Rechts-Und Sozialphilosophie	√	
15	(Malaniuk et al. 2023; Manassero-Mas and Vázquez-Alonso 2023)	Means Of Gamification of Learning During Martial Law	2023	Amazonia Investiga		√
16	(Manassero-Mas and Vázquez-Alonso 2023)	Teaching And Learning to Think About the Nature of Science: A Card Game as A Resource In Primary Education	2023	Revista Eureka Sobre Ensenanza Y Divulgacion De Las Ciencias		√
17	(Bignami et al. 2023)	The Clinical Researcher Journey in The Artificial Intelligence Era: The PAC-MAN's Challenge	2023	Healthcare		√
18	(Boichuk et al. 2023)	Effectiveness Of Virtual Space in The Socialization Process of Teenagers (Under Martial Law)	2023	Amazonia Investiga		√
19	(Nesen et al. 2023)	Interactive Tasks as A Means of Theoretical Training In Physical Education Of Students	2023	Physical Education Of Students		√
20	(Thompson and London 2023)	Not All Fun and Games: Disparities in School Recess Persist, And Must Be Addressed	2023	Preventive Medicine Reports		√
21	(Johnson 2024)	“Trying To Save The White Man’s Soul”: Perpetually Convergent Interests and Racial Subjugation	2024	Yale Law Journal	√	



22	(Fischer, Göhlich, and Schmitt 2024)	Adapting To Climate Change Through Play? Didactically Effective Elements of a Business Simulation Game	2024	Frontiers In Education	√	
23	(Rodriguez-Calzada, Paredes-Velasco, and Urquiza-Fuentes 2024)	The Educational Impact of a Comprehensive Serious Game Within the University Setting: Improving Learning and Fostering Motivation	2024	Heliyon	√	
24	(Niederjohn and Lawson 2024)	Teaching Economic Freedom with The Mystery Nations Lesson	2024	Journal Of Private Enterprise	√	
25	(Sripa et al. 2024)	Combating Cyberbullying In Thai Youth: Learning Innovation As A Possible Solution	2024	International Journal Of Educational Development	√	
26	(Li et al. 2024)	Collaborative Governance in Integrated Preschool Education: A Quadrilateral Evolutionary Game Model Analysis	2024	Frontiers In Education		√
27	(Casey, Mountford-Zimdars, and Hancock 2024; Li et al. 2024)	Player, Purist, Pragmatist: A Comparison of Employability Strategies in Access to The Solicitors' Profession Via Alternative Degree Pathways	2024	Alexandria Engineering Journal		√

### Quality of Appraisal

Following the guidelines suggested by Kitchenham and Charters ((Kitchenham 2007b), after selecting the primary studies (referring to original research articles, papers, or documents included directly in the systematic review post-initial selection, and serving as the primary evidence sources analysed for quality and compared quantitatively or qualitatively to address the review's research questions), we need to evaluate the quality of these studies and perform quantitative comparisons. For this study, we implement the quality assessment approach proposed by Anas Anas Abouzahra et al. (Abouzahra, Sabraoui, and Afdel, 2020), which includes six quality assessment criteria for our systematic literature review (SLR). Each criterion is scored based on three possible ratings: "Yes" (Y) with a score of 1 when the criterion is fully met, "Partly" (P) with a score of 0.5 when the criterion is somewhat met but has minor gaps, and "No" (N) with a score of 0 if the criterion is not met.

- QA1. Is the purpose of the study clearly stated?
- QA2. Is the interest and the usefulness of the work clearly presented?
- QA3. Is the study methodology clearly established?
- QA4. Are the concepts of the approach clearly defined?
- QA5. Is the work compared and measured with other similar work?
- QA6. Are the limitations of the work clearly mentioned?

The table outlines a quality assessment (Q.A.) process used to evaluate a study based on specific criteria. Three experts assess the study using the criteria listed, and each criterion is scored as "Yes" (Y), "Partly" (P), or "No" (N). Here's a detailed explanation:

**1. Is the purpose of the study clearly stated?**

- This criterion checks whether the study's objectives are clearly defined and articulated. A clear purpose helps set the direction and scope of the research.

**2. Is the interest and usefulness of the work clearly presented?**

- This criterion assesses whether the study's significance and potential contributions are clearly explained. It measures the relevance and impact of the research.

**3. Is the study methodology clearly established?**

- This assesses whether the research methodology is well-defined and appropriate for achieving the study's objectives. Clarity in methodology is crucial for the study's validity and reproducibility.

**4. Are the concepts of the approach clearly defined?**

- This criterion looks at whether the theoretical framework and key concepts are clearly articulated. Clear definitions are essential for understanding the study's approach.

**5. Is the work compared and measured with other similar work?**

- This evaluates whether the study has been benchmarked against existing research. Comparing the work with other studies helps position it within the broader academic context and highlights its contributions.

**6. Are the limitations of the work clearly mentioned?**

Each expert independently assesses the study according to these criteria, and the scores are then totalled across all experts to determine the overall mark. For a study to be accepted for the following process, the total mark, derived from summing the scores from all three experts, must exceed 3.0. This threshold ensures that only studies meeting a certain quality standard proceed further.

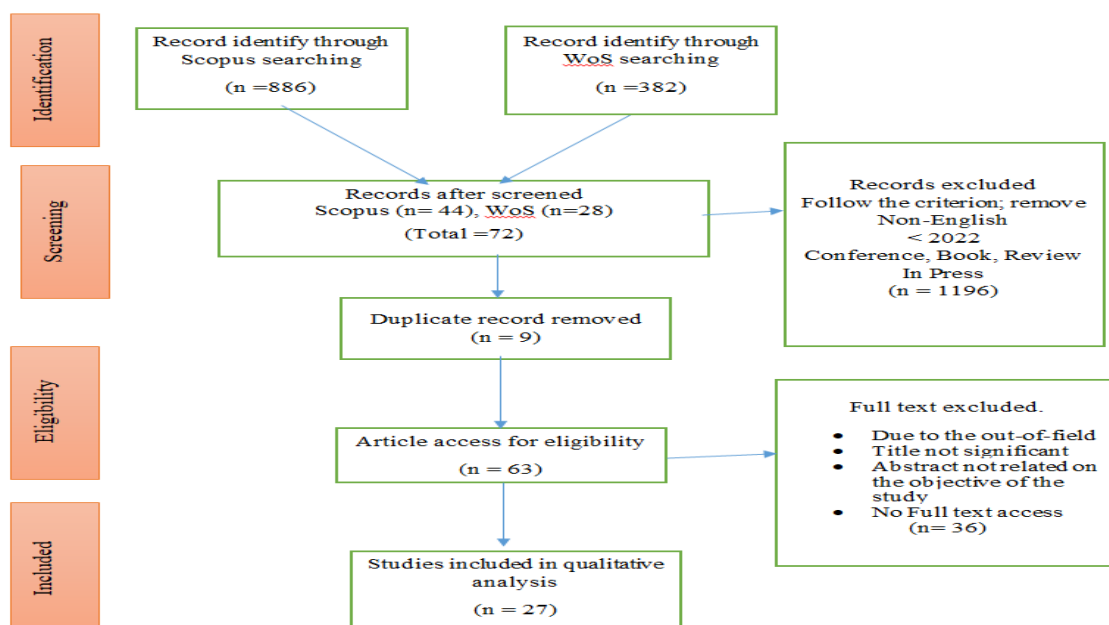


Figure 2. Flow diagram of the proposed searching study (Moher D, Liberati A, Tetzlaff J 2009)

## RESULTS AND FINDINGS

Based on the quality assessment, Table 4 shows the results of the assessment performance for the selected primary studies. Overall, most studies demonstrated a clear research purpose and appropriate methodology, indicating a solid foundation in research design. However, there was noticeable variation in how well the studies addressed key elements such as conceptual clarity, comparison with existing literature, and acknowledgement of limitations. The highest scoring papers achieved over 90%, reflecting comprehensive coverage of all quality criteria. In contrast, papers with lower scores often lacked areas such as comparison with other works and discussion of limitations. This suggests that while the majority of studies were methodologically sound, there is room for improvement in providing a more critical and reflective analysis in some areas.

Table 4: The quality assessment table for the selected papers

Author	Title	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	Percentage (%)
(Mondal and Maity 2023)	Exploring the Effects of Game-based Learning	1	1	1	1	0.5	0.5	5	83.33
(B C Cheong 2023)	Teaching and Engaging Adult Law Learners in a Singapore Business Law Class	1	1	1	1	0.5	1	5.5	91.67
(Gwiazdowicz et al. 2023)	The Ban on Participation of Children and Teenagers in the Hunt in Poland	1	1	1	1	1	0.5	5.5	91.67
(Bibik et al. 2023)	Professional English Language Education Model Developed Using Cognitive and Practical Methods	1	1	1	1	0.5	0	4.5	75%
(Kolodiziev et al. 2023)	Social Responsibility Of Higher Education Under Martial Law	1	1	1	0.5	1	1	5.5	92%
(Kalekin-Fishman and Hagoel 2023)	Primary school children voicing their own concerns: Practising Participatory Citizenship as experiential learning	1	1	1	0.5	0.5	0	4	67%

### Summary:

- **Highest Score:** The paper by Keane et al. achieved the highest score with 100% due to clear articulation of purpose, usefulness, methodology, defined concepts, comparison with other work, and mention of limitations.
- **Lowest Score:** The paper by Nahrawi et al. scored the lowest (66.67%), as it partly met the criteria for the concepts of approach and comparison with other work, and did not mention the limitations.

**Table 5 : The quality assessment table**

Author	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	%
<i>PS1</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS2</i>	1	1	1	1	0.5	1	5.50	91.67%
<i>PS3</i>	1	1	1	1	1	0.5	5.50	91.67%
<i>PS4</i>	1	1	0.5	1	0.5	0.5	4.50	75.00%
<i>PS5</i>	1	1	1	1	0.5	0	4.50	75.00%
<i>PS6</i>	1	1	1	0.5	1	1	5.50	91.67%
<i>PS7</i>	1	1	1	0.5	0.5	0	4.00	66.67%
<i>PS8</i>	1	1	1	1	0	0	4.00	66.67%
<i>PS9</i>	1	1	0.5	1	0.5	0.5	4.50	75.00%
<i>PS10</i>	1	1	0.5	1	0.5	0.5	4.50	75.00%
<i>PS11</i>	1	1	0.5	0.5	0.5	1	4.50	75.00%
<i>PS12</i>	1	1	1	1	1	0.5	5.50	91.67%
<i>PS13</i>	1	1	0.5	1	0.5	0	4.00	66.67%
<i>PS14</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS15</i>	1	1	0.5	1	0.5	0.5	4.50	75.00%
<i>PS16</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS17</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS18</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS19</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS20</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS21</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS22</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS23</i>	1	1	0.5	1	0.5	0	4.00	66.67%
<i>PS24</i>	1	1	1	1	0.5	0.5	5.00	83.33%
<i>PS25</i>	1	1	1	0.5	0.5	0.5	4.50	75.00%
<i>PS26</i>	1	1	0.5	1	0.5	0	4.00	66.67%
<i>PS27</i>	1	1	1	1	1	1	6.00	100.00%

The produced themes were eventually tweaked to ensure consistency. The analysis selection was carried out by two experts: one in law (Nursyahirah Aliya Mohamad Misnon—lawyer and legal academic) and the other in game design (Ahmad Faiz Azizi Ahmad Fauzi—expert in innovation development), to determine the validity

of the problems. The expert review phase ensures the clarity, importance, and suitability of each subtheme by establishing the domain validity. The authors also compared the findings to resolve any discrepancies in the theme creation process. Note that if any inconsistencies on the themes arose, the authors addressed them with one another. Finally, the developed themes were tweaked to ensure their consistency. To ensure the validity of the problems, the examinations were performed by two experts, one specialising in oncology and the other in biomedical science. The expert review phase helped ensure the clarity, importance, and adequacy of each sub-theme by establishing domain validity. Adjustments based on the discretion of the author, based on feedback and comments by experts, have been made.

### **Theme 1: Game-Based and Experiential Learning in Education**

The shift towards game-based and experiential learning in educational contexts reflects growing recognition of the benefits of interactive and participatory approaches to enhance student engagement and understanding. Recent research demonstrates that virtual labs, as exemplified in interactive Ohm's Law experiments, enable students to overcome the limitations of traditional lab settings by providing flexible and practical experiences in scientific experimentation (Mondal and Maity, 023). Similarly, Chen et al. (2023) found that their findings on adaptive digital game-based learning highlight how digital scaffolding effectively fosters engagement and learning performance, allowing students to adaptively engage with content, particularly in concept-heavy subjects such as physics.

In primary education, Kalekin-Fishman and Hagoel (2023) address citizenship education by utilising an experiential learning framework, such as the Practising Participatory Citizenship (PPC) model. Their study on PPC highlights how immersive learning approaches can empower young students to engage in active citizenship. Through simulations and decision-making activities, students demonstrated an increased sensitivity to diverse viewpoints, fostering respectful communication and collaborative problem-solving. In another example of gamified educational tools, Manassero-Mas and Vázquez-Alonso (2023) discuss a card game developed to teach scientific thinking with an explicit focus on the nature of science (NoS). By employing NoS card games, primary students develop observation, reasoning, and evidence-based argumentation skills, demonstrating how experiential learning can enhance their understanding of complex scientific concepts in early education.

Game-based learning has also been adopted to tackle real-world challenges, such as climate adaptation in economic settings, as demonstrated by Fischer et al. (2024). Through a business simulation game, managers in Germany explored practical strategies for climate adaptation, utilising data and regulatory knowledge within an immersive, competitive environment. Their study reveals that simulation games provide not only theoretical knowledge but also practical insights that motivate learners to engage actively with pressing issues, such as environmental sustainability. Rodriguez-Calzada et al. (2024) further exemplify the effectiveness of game-based learning in university settings, particularly within social sciences and law education. Their serious game approach has proven valuable in enhancing student motivation, engagement, and proficiency in critical tools, such as word processing and data management software.

Overall, game-based and experiential learning approaches in education show promising impacts across various academic levels and subjects, from primary to higher education. Studies confirm that these methods can address diverse educational needs by combining theoretical learning with interactive, scenario-based activities. This aligns with ongoing advancements in educational technology and reflects the growing adoption of immersive, gamified educational experiences that enable students to engage deeply and collaboratively with content.

### **Theme 2: Law, Ethics, and Governance in Education**

A broad analysis of recent studies on gamification and experiential learning within legal education reveals both the effectiveness and challenges of integrating digital tools and interactive methods in adult learning environments. Cheong (2023) study in Singapore emphasises that gamification and digital tools in legal education foster increased engagement and practical skills among adult learners. The interactive teaching strategies used in the Law of Business Organisation course demonstrated a clear enhancement in students'

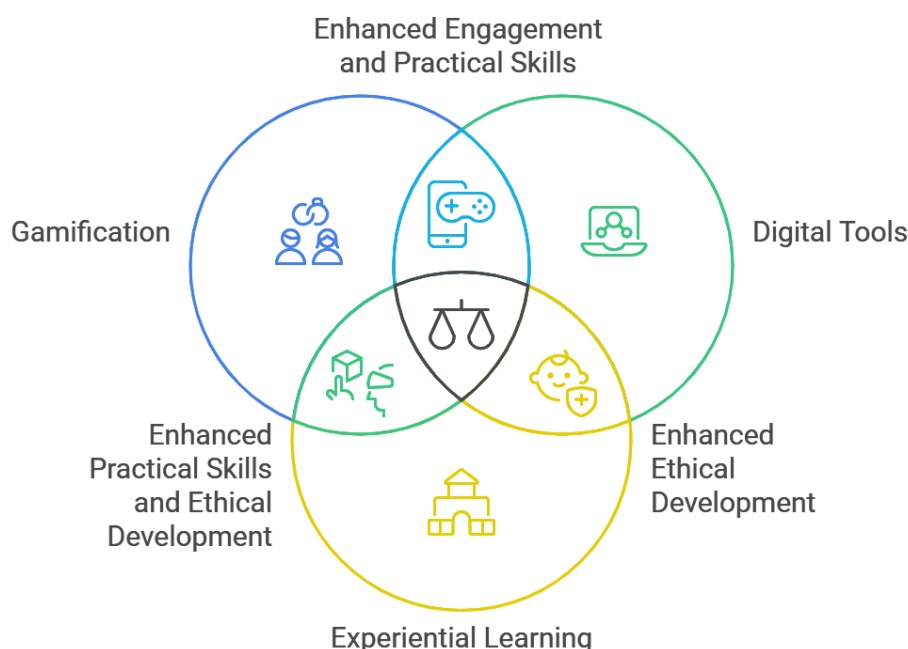


enthusiasm and practical knowledge, a crucial factor for legal careers. This aligns with the broader understanding that adult learners benefit from educational approaches tailored to their skill levels and motivations, as noted in Rossler et al. (2023) study, which found that targeted training and resources are practical in skill development across varied professional fields.

Furthermore, Pageau-St-Hilaire (2023) examines the philosophical and moral aspects of play in education, particularly in cultivating virtue, drawing on Plato's *Laws* as a foundation. This analysis finds that structured and pleasurable activities, like choral performances, help internalise moral virtues. The intrinsic pleasure associated with play fosters alignment between one's character and the virtuous behaviour being modelled, thereby supporting ethical education in a law-centred curriculum. By engaging in structured, imitative activities, students can develop the moral sensibilities essential to governance and ethical decision-making, suggesting that legal education can be enriched through controlled, morally based gamification.

In the context of law and governance, the role of collaborative digital content in knowledge transfer and civic education is highlighted by Medero et al. (2023), who report success with multimedia resources in Political Science courses. Students created videos and participated in a collaborative learning process, acquiring practical skills and reinforcing their learning through peer-driven content creation. The study's results show how digital collaborative tools in higher education not only support learning but also provide opportunities to engage with complex governance concepts interactively. Bibik et al. (2023) also support this view, demonstrating that a structured, cognitive-based linguodidactic model in legal English teaching enables students to engage deeply with the content, thereby enhancing both language proficiency and legal knowledge in authentic contexts.

In conclusion, research suggests that gamification, digital resources, and experiential learning methods are increasingly relevant and practical in legal education Bibik et al. (2023); Cheong (2023); Medero et al. (2023); Pageau-St-Hilaire (2023) collectively underscore that well-designed educational activities, whether through digital tools, structured play, or collaborative content creation, not only improve engagement and practical skills but also foster ethical and civic competencies critical in law and governance education.



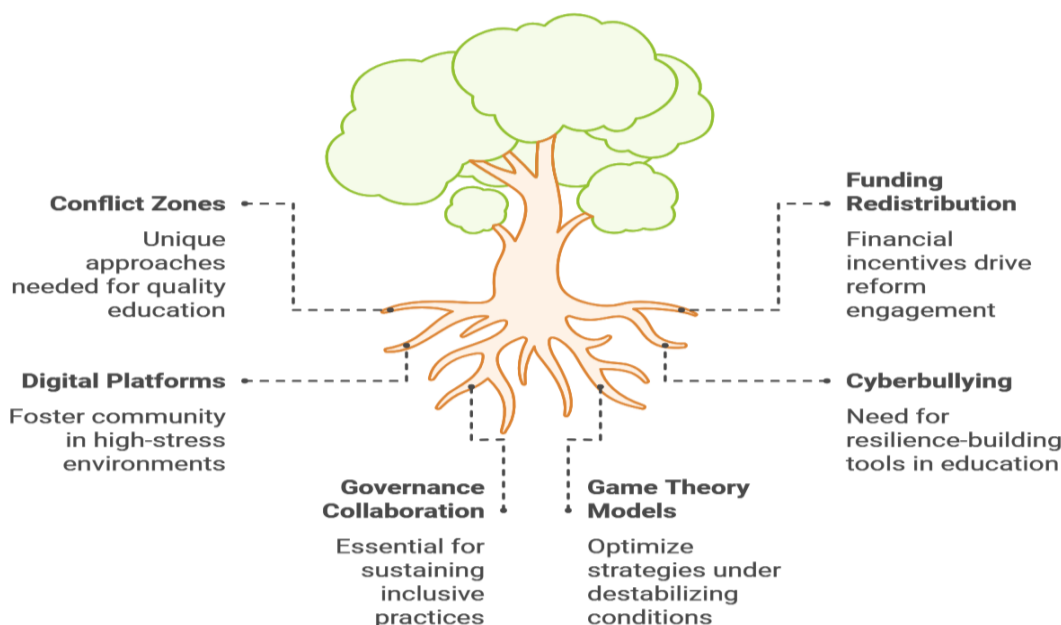
### Theme 3: Social Responsibility, Adaptation, and Inclusion in Education

The studies under the theme of “Social Responsibility, Adaptation, and Inclusion in Education” showcase various approaches to managing social responsibility and inclusion within educational systems that face unique challenges. In Ukraine, Kolodiziev et al. (2023) highlighted how universities have adapted to martial law, implementing quality and social responsibility indicators to optimise educational service delivery according to

geographic safety levels. Their findings emphasise that territories near conflict zones necessitate a distinctive approach to sustain educational quality. The use of game theory models, as applied by Kolodiziev et al., supports an optimisation strategy, which ultimately aims to stabilise service quality amidst destabilising conditions, improving social responsibility by approximately 10% and stabilising growth by 15-20%. Similarly, Boichuk et al. (2023) investigated how virtual spaces support teenagers' socialisation under martial law, finding that, despite potential risks, such digital platforms foster a sense of community and national identity, which are essential in high-stress environments.

Further insights into social inclusion through governance were addressed by Liu et al. (2023), who examined educational reforms in private universities. Their study employed an SD evolutionary game model to investigate the impact of funding redistribution on stakeholders' behaviour, finding that stable reform adoption is achieved when the financial benefits from education subsidies exceed prior incentives. This suggests that increased funding for professors promotes reform engagement, while schools benefit from this redistribution when they have low research returns, thereby enhancing their long-term commitment to reform. The findings align with Li et al. (2024), who explored collaborative governance in preschool education and employed a quadrilateral game model, showing that cooperation between government, social organisations, and parents, supported by resources and supervision, fosters inclusive education. Both studies reinforce the importance of structured financial incentives and collaboration across institutions to sustain inclusive practices and reform initiatives.

Social responsibility and adaptation are also central to addressing cyberbullying in Thailand, as Kolodiziev et al. (2023) developed an interactive educational tool to equip young learners with knowledge and strategies to combat cyberbullying. Through a research and development approach, the authors found that the interactive game effectively engaged participants, including students, teachers, and community representatives, in building resilience against cyberbullying. This finding parallels the research of Kolodiziev et al. (2023) in conflict zones, where social responsibility is achieved through targeted, localised strategies. The integration of digital tools and gamification in the educational space offers potential for addressing societal challenges, as observed in both studies.



## DISCUSSION AND CONCLUSION

The integration of game-based and experiential learning within education is increasingly recognised for its capacity to boost student engagement, understanding, and practical skills. Research shows that virtual labs and digital scaffolding allow students to conduct experiments flexibly and develop adaptive learning strategies, which is especially useful for complex subjects like physics. In primary education, experiential models such as the Practising Participatory Citizenship (PPC) model have proven effective, enabling

young learners to explore active citizenship through simulations, enhancing empathy, respectful communication, and problem-solving skills. Similarly, gamified tools, like the Nature of Science (NoS) card games, support primary students in developing scientific reasoning and evidence-based argumentation skills, demonstrating how early education can benefit from interactive learning. Game-based approaches are also leveraged to address real-world challenges. For example, simulation games for climate adaptation provide business managers with hands-on experiences in applying theoretical knowledge and environmental data, highlighting the role of games in fostering engagement with sustainability challenges. At the university level, serious games in social sciences and law enhance motivation and skill proficiency in critical tools, underscoring the relevance of game-based learning for professional preparation.

Recent research highlights the growing effectiveness of gamification, digital tools, and experiential learning in legal education, offering benefits that extend beyond traditional classroom approaches. Studies indicate that interactive teaching methods and digital tools enhance engagement and practical skills among adult learners, particularly valuable for fields requiring specialised knowledge and hands-on experience. For example, law courses that utilise gamified and interactive approaches have demonstrated increases in student enthusiasm and practical understanding, which are essential for real-world legal practice. Additionally, the use of structured play, such as imitative and collaborative activities, contributes to the development of moral sensibilities and ethical reasoning. This approach, rooted in philosophical perspectives on education, emphasises that pleasure in structured activities aids in internalising virtues, thereby supporting ethical foundations critical to governance and legal decision-making. Collaborative digital content, including multimedia and video creation in courses like Political Science, further demonstrates the potential for peer-driven learning, offering students the chance to engage deeply with civic and governance concepts while developing practical, real-world skills.

The studies on "Social Responsibility, Adaptation, and Inclusion in Education" reveal diverse strategies to address social responsibility and inclusion within educational systems under various pressures. In Ukraine, research emphasises how universities have adapted to martial law by employing quality and social responsibility metrics, enabling regions near conflict zones to maintain educational standards through localised approaches. Utilising game theory models has supported the optimisation of service quality, boosting social responsibility metrics and promoting stability despite disruptions.

In exploring virtual spaces for youth socialisation under martial law, findings indicate that online platforms, although risky, play a vital role in community building and reinforcing national identity, which is which is essential during high-stress periods. Studies on private university reforms further highlight the role of financial incentives and structured governance, demonstrating that funding redistribution can encourage the adoption of sustained reform. Incentives for professors, when combined with an institution's commitment to reform, strengthen long-term reform engagement, while low research returns make these changes more advantageous for schools. Similar collaborative governance approaches in preschool education demonstrate that partnerships among governments, social organisations, and parents, underpinned by resource allocation and oversight, effectively promote inclusive education practices. Efforts to address cyberbullying in Thailand highlight the importance of interactive educational tools, where gamification promotes awareness and resilience among students, teachers, and community members. The success of these digital tools parallels Ukraine's adaptive strategies, highlighting the value of gamification in addressing social challenges within educational contexts.

The research highlights that game-based and experiential learning effectively meet diverse educational needs by merging theoretical understanding with practical, scenario-based exercises. This approach aligns with technological progress and the growth of immersive learning, enhancing engagement and collaboration across various disciplines. In language-focused legal studies, cognitive-based models boost linguistic and legal skills through authentic, context-driven activities. Overall, well-designed experiential methods, including digital tools, structured play, and collaborative tasks, not only develop practical competencies but also cultivate ethical awareness and social responsibility, particularly valuable in legal education and complex learning environments.

## REFERENCES

1. Azevedo, A., A. Guerra, and P. Azevedo. 2022. "The Influence of Gamification in Education: Possibilities, Regulation and Concerns." Pp. 129–36 in *Lecture Notes in Networks and Systems*. Vol. 326, edited by D. la P. F, R. Gennari, M. Temperini, D. M. T, P. Vittorini, Z. Kubincova, E. Popescu, R. C. D, L. Lancia, and A. Addone. Springer Science and Business Media Deutschland GmbH.
2. Bibik, E. A., L. R. Nizamieva, G. I. Nazarova, and E. R. Porshneva. 2023. "Professional English Language Education Model Developed Using Cognitive and Practical Methods." *Journal of Research in Applied Linguistics* 14(3):152–56. doi:10.22055/rals.2023.19473.
3. Bignami, E. G., A. Vittori, R. B. R. Lanza, C. Compagnone, M. Cascella, and V. Bellini. 2023. "The Clinical Researcher Journey in the Artificial Intelligence Era: The PAC-MAN's Challenge." *HEALTHCARE* 11(7). doi:10.3390/healthcare11070975.
4. Boichuk, O., Y. Lyebiedyeva, M. Stadnyk, A. Mishchuk, and L. Shcherbin. 2023. "Effectiveness of Virtual Space in the Socialization Process of Teenagers (under Martial Law)." *AMAZONIA INVESTIGA* 12(63):266–76. doi:10.34069/AI/2023.63.03.25.
5. Bolesina, Iuri, and Tamiris Alessandra Gervasoni. 2021. "Gamification in Legal Education: Structuring Elements Applied in an Experience." *Revista Pedagogia Universitaria y Didactica Del Derecho* 8(2). doi:10.5354/0719-5885.2021.57144.
6. Casey, C., A. Mountford-Zimdars, and S. Hancock. 2024. "Player, Purist, Pragmatist: A Comparison of Employability Strategies in Access to the Solicitors' Profession via Alternative Degree Pathways." *STUDIES IN HIGHER EDUCATION*. doi:10.1080/03075079.2024.2318458.
7. Chen, C. H., V. Law, and K. Huang. 2023. "Adaptive Scaffolding and Engagement in Digital Game-Based Learning." *Educational Technology Research and Development* 71(4):1785–98. doi:10.1007/s11423-023-10244-x.
8. Cheong, B C. 2023a. "Teaching and Engaging Adult Law Learners in a Singapore Business Law Class—A Reflection of Legal Teaching Strategies." *Asian Journal of Legal Education* 10(1):74–86. doi:10.1177/23220058221139063.
9. Cheong, B C. 2023b. "Teaching and Engaging Adult Law Learners in a Singapore Business Law Class—A Reflection of Legal Teaching Strategies." *Asian Journal of Legal Education* 10(1):74–86. doi:10.1177/23220058221139063.
10. Cheong, Ben Chester. 2023. "Teaching and Engaging Adult Law Learners in a Singapore Business Law Class—A Reflection of Legal Teaching Strategies." *Asian Journal of Legal Education* 10(1). doi:10.1177/23220058221139063.
11. Debello, J. E., S. Schmeelk, D. M. Dragos, E. Troja, and L. M. Truong. 2022. "Teaching Effective Cybersecurity through Escape the Classroom Paradigm." Pp. 17–23 in *IEEE Global Engineering Education Conference, EDUCON*. Vols. 2022-March, edited by M. Jemni, I. Kallel, and A. Akkari. IEEE Computer Society.
12. Feng, Zhenan, Yifan Gao, and Tongrui Zhang. 2022. "Gamification for Visualization Applications in the Construction Industry." in *Structural Integrity*. Vol. 20.
13. Ferguson, Daniel M. 2016. "The Gamification of Legal Education: Why Games Transcend the Langdellian Model and How They Can Revolutionize Law School." *Chapman Law Review* 19(2).
14. Fischer, S., M. Göhlich, and J. Schmitt. 2024. "Adapting to Climate Change through Play? Didactically Effective Elements of a Business Simulation Game." *FRONTIERS IN EDUCATION* 9. doi:10.3389/feduc.2024.1303107.
15. García, Ma José Serrano. 2022. "The Virtual Campus and Gamification of the Teaching/Learning Process A Special Reference to the Legal Subjects That Are Articulated Outside the Bachelor's Degree in Law." *Human Review. International Humanities Review / Revista Internacional de Humanidades* 11. doi:10.37467/revhuman.v11.3920.
16. Gil-Aciron, Luis Ángel. 2022. "Benefits of Gamification in Second Language Learning." *Epos: Revista de Filología* (38). doi:10.5944/epos.38.2022.33785.
17. Gulyamov, S. S., A. A. Rodionov, I. R. Rustambekov, and A. N. Yakubov. 2023. "The Growing Significance of Cyber Law Professionals in Higher Education: Effective Learning Strategies and Innovative Approaches." Pp. 117–19 in *Proceedings - 2023 3rd International Conference on Technology Enhanced Learning in Higher Education, TELE 2023*. Institute of Electrical and



Electronics Engineers Inc.

18. Gwiazdowicz, D. J., A. E. Matulewska, and J. Piskorski. 2023. "The Ban on Participation of Children and Teenagers in the Hunt in Poland – A Case Study of Parliamentary Law Enactment Process and Its Consequences." *International Journal for the Semiotics of Law* 36(2):939–68. doi:10.1007/s11196-022-09934-1.
19. Hinton, Sean, Lincoln Wood, Harminder Singh, and Torsten Reiners. 2019. "Enterprise Gamification Systems and Employment Legislation: A Systematic Literature Review." *Australasian Journal of Information Systems* 23. doi:10.3127/ajis.v23i0.2037.
20. Johnson, M. B. 2024. "'Trying to Save the White Man's Soul': Perpetually Convergent Interests and Racial Subjugation." *Yale Law Journal* 133(4):1335–1400. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85186859659&partnerID=40&md5=ecb6ec8fdee27e732c2e4960c696619c>.
21. Kalekin-Fishman, D., and L. Hagoel. 2023. "Primary School Children Voicing Their Own Concerns: Practising Participatory Citizenship as Experiential Learning." *Citizenship Teaching and Learning* 18(3):293–311. doi:10.1386/ctl\_00127\_1.
22. Kim, Jihoon, and D. Castelli. 2021. "Effects of Gamification on Behavioral Change in Education: A Meta-Analysis." *International Journal of Environmental Research and Public Health* 18. doi:10.3390/ijerph18073550.
23. Kitchenham, Barbara. 2007a. "Guidelines for Performing Systematic Literature Reviews in Software Engineering." Technical Report, Ver. 2.3 EBSE Technical Report. EBSE.
24. Kitchenham, Barbara. 2007b. "Guidelines for Performing Systematic Literature Reviews in Software Engineering." Technical Report, Ver. 2.3 EBSE Technical Report. EBSE.
25. Koivisto, Jonna, and Juho Hamari. 2014. "Demographic Differences in Perceived Benefits from Gamification." *Computers in Human Behavior* 35. doi:10.1016/j.chb.2014.03.007.
26. Kolodiziev, O., I. Krupka, V. Kovalenko, T. Kolodizieva, V. Yatsenko, and V. Shcherbak. 2023. "SOCIAL RESPONSIBILITY OF HIGHER EDUCATION UNDER MARTIAL LAW." *Ikonomicheski Izsledvania* 32(1):143–63. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85147293312&partnerID=40&md5=e055bcd5128b6205dcdf815aec9251>.
27. Konstantinov, Alexander. 2022. "Gamification of Law as a Response to Modern Challenges of Its Development." *Legal Concept*. doi:10.15688/lc.jvolsu.2022.3.9.
28. Krishnamurthy, Kandamaran, Nikil Selvaraj, Palak Gupta, Benitta Cyriac, Puvina Dhurairaj, Adnan Abdullah, Ambigga Krishnapillai, Halyna Lugova, Mainul Haque, Sophie Xie, and Eng Tat Ang. 2022. "Benefits of Gamification in Medical Education." *Clinical Anatomy* 35(6). doi:10.1002/ca.23916.
29. Lekea, I. K., G. K. Lekeas, and P. Topalnakos. 2023. "Exploring Enhanced Military Ethics and Legal Compliance through Automated Insights: An Experiment on Military Decision-Making in Extremis." *Conatus - Journal of Philosophy* 8(2):345–72. doi:10.12681/cjp.35213.
30. Li, M. R., X. M. Zhang, M. Wu, and Y. Lv. 2024. "Collaborative Governance in Integrated Preschool Education: A Quadrilateral Evolutionary Game Model Analysis." *ALEXANDRIA ENGINEERING JOURNAL* 91:516–34. doi:10.1016/j.aej.2024.02.038.
31. Liu, Qijia, Chunlong Xia, Ran Yi, Ran Xu, and Yeong Gil Kim. 2023. "AN ANALYSIS OF THE DECISION-MAKING BEHAVIOR OF THREE INTERESTED PARTIES IN THE PROCESS OF PRIVATE UNIVERSITY EDUCATION REFORM." *Public Policy and Administration* 22(4). doi:10.13165/VPA-23-22-4-03.
32. Lockwood, Craig, Kylie Porritt, Zachary Munn, Leslie Rittenmeyer, Susan Salmond, Merete Bjerrum, Heather Loveday, Judith Carrier, and Daphne Stannard. 2019. "Chapter 2: Systematic Reviews of Qualitative Evidence." in *JBIR Reviewer's Manual*.
33. Manassero-Mas, M. A., and A. Vázquez-Alonso. 2023. "Teaching and Learning to Think about the Nature of Science: A Card Game as a Resource in Primary Education." *REVISTA EUREKA SOBRE ENSEÑANZA Y DIVULGACIÓN DE LAS CIENCIAS* 20(2):220201–16. doi:10.25267/Rev\_Eureka\_ensen\_divulg\_cienc.2023.v20.i2.2202.
34. Medero, G. S., G. P. Albaladejo, J. C. C. Lanchares, O. S. Sainz, J. P. Hernanz, M. J. G. Solana, J. R. de la Fuente, and P. M. Medina. 2023. "Collaborative Design of Audio-Visual Materials in Political Science and Administration." *Contemporary Educational Technology* 15(3).



doi:10.30935/cedtech/13101.

35. Moher D, Liberati A, Tetzlaff J, Altman Dg. 2009. "PRISMA 2009 Flow Diagram." The PRISMA Statement 6:1000097.
36. Monauni, M., and S. Götte. 2023. "Simulation-Based Learning in Higher Education: 5 Reasons Why Gamification Completes Online Teaching." Pp. 619–28 in Lecture Notes in Networks and Systems. Vol. 634 LNNS, edited by M. E. Auer, W. Pachatz, and T. Rüttmann. Springer Science and Business Media Deutschland GmbH.
37. Mondal, A. H., and R. Maity. 2023. "Exploring the Effects of Game-Based Learning." Journal of Engineering Education Transformations 37(1):98–105. doi:10.16920/jeet/2023/v37i1/23136.
38. Nagovitsyn, R. S., E. A. Berezhnykh, A. E. Popovic, and O. V Srebrodolsky. 2021. "Formation of Legal Competence of Future Bachelors of Psychological and Pedagogical Education." International Journal of Emerging Technologies in Learning 16(1):188–204. doi:10.3991/IJET.V16I01.17591.
39. Negrușă, Adina Letiția, Valentin Toader, Aurelian Sofică, Mihaela Filofteia Tutunea, and Rozalia Veronica Rus. 2015. "Exploring Gamification Techniques and Applications for Sustainable Tourism." Sustainability (Switzerland) 7(8). doi:10.3390/su70811160.
40. Nesen, O., V. Klymenchenko, I. Kryventsova, L. Zavatska, M. Tomanek, and W. Jagiello. 2023. "Interactive Tasks as a Means of Theoretical Training in Physical Education of Students." PHYSICAL EDUCATION OF STUDENTS 27(3):104–11. doi:10.15561/20755279.2023.0302.
41. Niederjohn, M. S., and R. Lawson. 2024. "Teaching Economic Freedom with the Mystery Nations Lesson." Journal of Private Enterprise 39(2):71–79. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85200140041&partnerID=40&md5=f4111c4b7e30d9564b005151f001a40f>.
42. Oksana, H., K. Kateryna, D. Iryna, B. Olena, and K. Neonila. 2022. "Problems and Prospects of Formation of Digital Competence of Future Scientific and Pedagogical Workers of Higher Education Institutions Through Gamification: Opportunities Kahoot, Quizlet in the European Union." Journal of Curriculum and Teaching 11(4):108–19. doi:10.5430/jct.v11n4p108.
43. Page, Matthew J., Joanne E. McKenzie, Patrick Bossuyt, Isabelle Boutron, Tammy C. Hoffmann, Cynthia D. Mulrow, Larissa Shamseer, Jennifer M. Tetzlaff, Elie Akl, Sue E. Brennan, Roger Chou, Julie Glanville, Jeremy M. Grimshaw, Asbjørn Hróbjartsson, Manoj M. Lalu, Tianjing Li, Elizabeth W. Loder, Evan Mayo-Wilson, Steve McDonald, Luka McGuinness, Lesley A. Stewart, James Thomas, Andrea C. Tricco, Vivian A. Welch, Penny Whiting, and David Moher. 2021. "The Prisma 2020 Statement: An Updated Guideline for Reporting Systematic Reviews." Medicina Fluminensis 57(4):444–65. doi:10.21860/medflum2021\_264903.
44. Pageau-St-Hilaire, A. 2023. "Play and Moral Education in the Choruses of Plato's Laws." Apeiron 56(1):43–73. doi:10.1515/apeiron-2021-0053.
45. Palmquist, A., R. Munkvold, and O. Goethe. 2021. "Gamification Design Predicaments for E-Learning." Pp. 245–55 in Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). Vol. 12790 LNCS, edited by X. Fang. Springer Science and Business Media Deutschland GmbH.
46. PaŁosz, R. 2023. "Rule-Creating Activity of EVE Online Players." Archiv Fur Rechts- Und Sozialphilosophie 109(1):135–54. doi:10.25162/arsp-2023-0004.
47. Rahmani, Eka Fajar. 2020. "The Benefits of Gamification in the English Learning Context." IJEE (Indonesian Journal of English Education) 7(1). doi:10.15408/ijee.v7i1.17054.
48. Reis, Ana Carla Bittencourt, Everaldo Silva Júnior, Brenda Baumann Gewehr, and Mateus Halbe Torres. 2020. "Prospects for Using Gamification in Industry 4.0." Production 30. doi:10.1590/0103-6513.20190094.
49. Rodriguez-Calzada, L., M. Paredes-Velasco, and J. Urquiza-Fuentes. 2024. "The Educational Impact of a Comprehensive Serious Game within the University Setting: Improving Learning and Fostering Motivation." Heliyon 10(16). doi:10.1016/j.heliyon.2024.e35608.
50. Rossler, M. T., J. T. Foster, and M. J. Suttmoeller. 2023. "The Influence of Conservation Agency Resources on Officer Entry and Training Requirements." International Journal of Police Science and Management 25(1):67–80. doi:10.1177/14613557221132491.
51. Seah, D. 2020. "Using Kahoot in Law School: Differentiated Instruction for Working Adults with Diverse Learning Abilities." Pp. 36–48 in International Journal of Mobile Learning and Organisation.

Vol. 14. Inderscience Publishers.

52. Sripa, K., P. Thummaphan, T. Ninphet, and V. Gulabutr. 2024. "Combating Cyberbullying in Thai Youth: Learning Innovation as a Possible Solution." *International Journal of Educational Development* 108. doi:10.1016/j.ijedudev.2024.103065.
53. Stevens, J., M. Dedushkov, and I. Ionescu. 2023. "RESPONSIBLE DESIGN FOR (NOT WITH) HARD-TO-REACH USERS." Pp. 427–32 in *Proceedings of the 25th International Conference on Engineering and Product Design Education: Responsible Innovation for Global Co-Habitation, E and PDE 2023*, edited by O. P. I, P. Sustersic, L. Buck, H. Grierson, and E. Bohemia. The Design Society.
54. Thangavelu, D. P., A. J. Q. Tan, R. Cant, W. L. Chua, and S. Y. Liaw. 2022. "Digital Serious Games in Developing Nursing Clinical Competence: A Systematic Review and Meta-Analysis." *Nurse Education Today* 113. doi:10.1016/j.nedt.2022.105357.
55. Thompson, H. R., and R. A. London. 2023. "Not All Fun and Games: Disparities in School Recess Persist, and Must Be Addressed." *PREVENTIVE MEDICINE REPORTS* 35. doi:10.1016/j.pmedr.2023.102301.
56. Tobarra, L., A. Utrilla, A. Robles-Gómez, R. Pastor-Vargas, and R. Hernández. 2021. "A Cloud Game-Based Educative Platform Architecture: The Cyberscratch Project." *Applied Sciences (Switzerland)* 11(2):1–22. doi:10.3390/app11020807.
57. Vargas, A. C., and R. Magnussen. 2022. "A Game-Based Approach for Open Data in Education: A Systematic Mapping Review." Pp. 139–46 in *Proceedings of the European Conference on Games-based Learning*. Vols. 2022-October, edited by C. Costa. Dechema e.V.
58. Vargas-Murillo, A. R., I. N. M. D. L. A. Pari-Bedoya, and F. D. J. Guevara-Soto. 2023a. "The Ethics of AI Assisted Learning: A Systematic Literature Review on the Impacts of ChatGPT Usage in Education." Pp. 8–13 in *ACM International Conference Proceeding Series*. Association for Computing Machinery.
59. Vargas-Murillo, A. R., I. N. M. D. L. A. Pari-Bedoya, and F. D. J. Guevara-Soto. 2023b. "Virtual Gamification Strategies and Their Impact on Legal Education Experiences: A Systematic Review." Pp. 85–90 in *ACM International Conference Proceeding Series*. Association for Computing Machinery.
60. Yang, Y., R. Sun, J. Dai, and M. Zhu. 2023. "Evolutionary Analysis of Stakeholder Behavior in Green Retrofitting of Traditional Residential Buildings Based on Dissemination and Game Models." *PLoS ONE* 18(3 March). doi:10.1371/journal.pone.0282314.
61. Yari, S., S. Mäses, and O. Maennel. 2020. "A Method for Teaching Open Source Intelligence (OSINT) Using Personalised Cloud-Based Exercises." Pp. 480–89 in *Proceedings of the 15th International Conference on Cyber Warfare and Security, ICCWS 2020*, edited by B. K. Payne and H. Wu. Academic Conferences and Publishing International Limited.
62. Yuratich, David. 2021. "Ratio! A Game of Judgment: Using Game-Based Learning to Teach Legal Reasoning." *Law Teacher* 55(2). doi:10.1080/03069400.2020.1773677.
63. Zahra, Sonia Barghani. 2020. "The Benefits of Gamification in Learning." *International Journal of Advance Research and Innovative Ideas in Education* 6(2).