Systematic Literature Review on the Implementation of Game-Based Learning Management Systems through ClassDojo in Indonesian Education: A Focus on Parental Involvement and Teacher Readiness to Increase Student Learning Motivation.

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Abstract. This systematic literature review (SLR) research examines the integration of educational technology, specifically the Learning Management System (LMS) and ClassDojo platform, in improving student motivation, parental engagement, and teacher competence in Indonesia globally. By analyzing 28 articles published between 2021 and 2025, the study highlights the positive impact of technology on learning accessibility, classroom management and student engagement. Key findings show that LMS and ClassDojo improve academic motivation, behavior, and real-time communication between teachers and parents. However, challenges such as the digital literacy gap among educators, infrastructure inequality, and uneven parental engagement remain. This study emphasizes the importance of teacher training, equitable access to technology and collaborative efforts among stakeholders to optimize digital learning outcomes. The results of this study are in line with the demands of 21st century education, which emphasizes adaptive, participatory and collaborative approaches to learning. Policymakers, educators, and educational institutions can use the findings from this study to create inclusive and long-lasting digital education policies.

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1 Introduction

One of the key elements influencing a student's success in school is their passion to learn. Low learning motivation is still an issue in Indonesia, nevertheless, and requires significant attention. A less encouraging learning atmosphere is among the reasons. The employment of less appealing learning methodologies and a lack of support from the academic environment is the main causes of low student interest and motivation to learn [1]. It has also been demonstrated that using technology-based learning models, such as Electronic Problem-Based Learning (E-PBL), greatly boosts students' motivation and interest in their studies [2]. Furthermore, teacher performance, school capacity, and the efficiency of technology use in the classroom all have a significant impact on student involvement [3]. The educational environment's social, religious, and cultural aspects can influence students' motivation to continue with a certain course of study [4].

Limited time and access to communication between teachers and parents make feedback on student discipline less effective [5]. In fact, positive feedback is important to remind mistakes and praise students' good behaviour. However, the problem is effective, quick and easy communication, especially for busy parents. In this case, technology is very important. In addition, the academic environment and parental involvement also play an important role in increasing students' learning motivation.

Parents can encourage a positive learning environment and offer emotional and spiritual support. The involvement of parents in the learning process, whether by active involvement in the subject matter being studied, volunteer work, or a proactive approach to their children's education, can boost students' enthusiasm for learning [6]. This is consistent with the idea that parents become the primary educators for their kids, helping to develop cognitive and motor skills as well as positive study habits.

The application of technology into the learning process has emerged as a crucial element in modern education, enhancing the interaction among educators, students, and the overall educational environment [7]. As a result, implementing more interactive and engaging technology-driven learning models, like Learning Management Systems (LMS), represents a viable solution to enhance student motivation and involvement The implementation of LMS has demonstrated a notable enhancement in student engagement and involvement, as it offers a more dynamic and tailored learning experience [8]. Various learning management systems commonly used in educational settings are Moodle, Google Classroom, Blackboard, and Edmodo.

One of the LMS platforms that has attracted some global attention is ClassDojo. One of the most widely used learning systems in more than 180 countries, particularly in North America and Europe, is ClassDojo. In the United States, almost all primary and secondary classrooms use it. It is available in 35 languages and can be accessed through mobile devices such as smartphones and tablets [9].

ClassDojo has become one of the platforms that support parent, student, and teacher engagement in digital classroom management. Through features such as a point system, digital attendance, and classroom communities, the app allows parents to monitor students' behaviour and academic progress in real-time, while facilitating more intensive communication between schools and families [10]. In addition, the translation feature available in the app has been shown to help parents overcome language barriers, which is one of the main reasons for their low engagement in school activities [11].

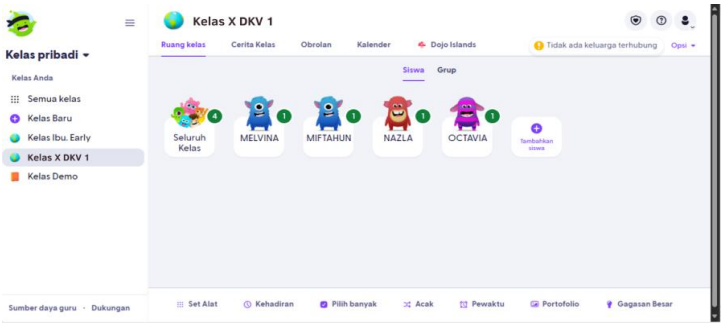

Fig 1. Example of a Class created in ClassDojo

Some ClassDojo features are also useful in the assignment and communication process, both with students and with parents. This is expected to help students understand the learning material better [12]. The app even provides a character customization feature that can train students' creativity. Furthermore, through Dojo Island, a virtual world with the concept of the metaverse, students are invited to interact in an innovative digital environment, allowing them to acquire not only academic knowledge, but also creative thinking skills, teamwork, and exciting and memorable virtual world exploration.

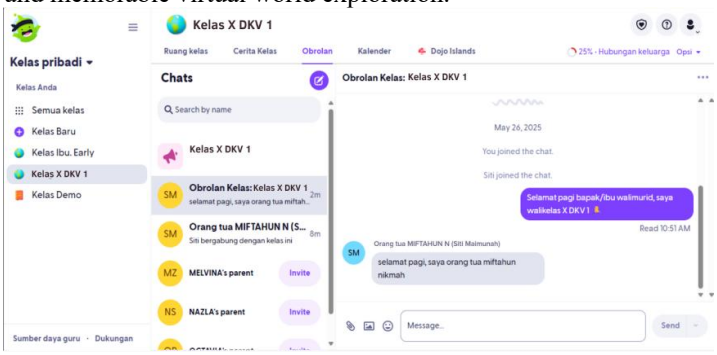

Fig 2. Parent Chat Room

However, the effective use of innovative features in platforms such as ClassDojo is highly dependent on the digital competence of teachers. Teachers play a central role in directing students to optimally utilize technology in the learning process. Teachers' mastery of digital technology and implementation of innovative pedagogical methods are key determinants in the success of technology-based learning [13].

In line with this, other studies also show that teachers' ability to manage digital classrooms and integrate technology in learning has a significant impact on student participation and engagement [14]. Besides individual teacher factors, technology readiness also plays an important role in the effectiveness of online learning [15]. This lack of readiness can be an obstacle in the teaching and learning process, especially when learning is carried out online suddenly such as during the COVID-19 mitigation period.

Teacher digital competence, or Digital Competence (DigComp), which includes information and data literacy, communication and collaboration, digital content creation, security, and problem solving, is considered a critical element in creating a technology-integrated 21st century learning environment [16]. Although 77.1% of prospective teachers rated themselves as having an excellent level of DigComp, only a minority felt their pre-service education program had truly prepared them for effective technology integration.

Therefore, teacher education programs need to reform their curricula and methodologies, not only in terms of technical introductions, but also in the deep understanding of technology integration in learning. With the combination of innovative technology and digitally competent teachers, students' learning experience can be more enjoyable, participatory and aligned with the needs of today's digital generation [17].

This systematic literature analysis aims to clarify the impact of ClassDojo on Indonesian classrooms, given the recent advances and increasing interest in digital educational platforms. To further develop our research and establish precise parameters for analysis, we inquire: how the integration of ClassDojo within a learning management system impacts student learning motivation; in what manner parental involvement is facilitated by ClassDojo and to what degree this enhances students' learning processes; and how equipped teachers are to implement ClassDojo, including the contextual factors that influence their preparedness. By addressing these three interconnected questions, researchers develop a systematic framework for synthesizing and interpreting the empirical evidence.

2 Method

This research employed the Systematic Literature Review (SLR) method, a methodology designed to collect, identify, and critically analyze relevant studies through systematic procedures [18]. The review was carried out in eight stages: (1) defining research questions and objectives; (2) determining data sources and search keywords; (3) establishing inclusion and exclusion criteria; (4) performing database searches; (5) selecting search results; (6) extracting data; (7) analyzing data; and (8) interpreting findings and drawing conclusions [18].

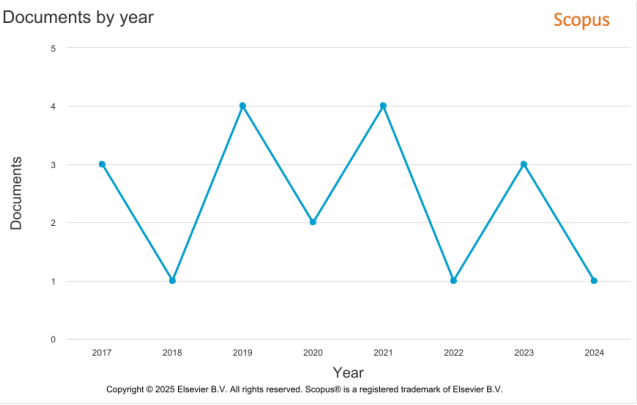

Fig 3. Annual Distribution of Included Scopus Publications

Figure 3 presents a line chart depicting the annual distribution of 28 Scopus-indexed articles included in this review, covering the period from 2017 to 2024. Following an initial increase from three publications in 2017 to a low of one in 2018, output reached a peak of four articles in both 2019 and 2021, aligning with heightened research activity concerning emergency remote teaching and post-pandemic engagement studies. Counts decreased to one in 2022 before increasing to three in 2023, likely indicating a resurgence of interest in digital platforms as hybrid learning models developed. A recent article from early 2024 indicates that our cut-off date may not fully capture the year's output, suggesting a continuing growth trend that warrants attention in future updates of this review.

Studies published between 2021 and 2025 in the form of journal articles, scientific papers, and conference proceedings, written in a language understandable to the researchers and available in full text, were eligible for inclusion [18]. Data were retrieved in March 2025 from the Publish or Perish database using the predetermined keywords: Motivation, Study,

Teacher Competency, Indonesia, LMS, Dojoclass, and Parental Involvement in Education, yielding 430 documents [18].

The PRISMA flow diagram, shown in Figure 4, illustrates the research selection process. This graphic illustrates the quantity of records identified via database searches, duplicates eliminated, records screened, full-text articles evaluated for eligibility, and studies incorporated in the final evaluation.

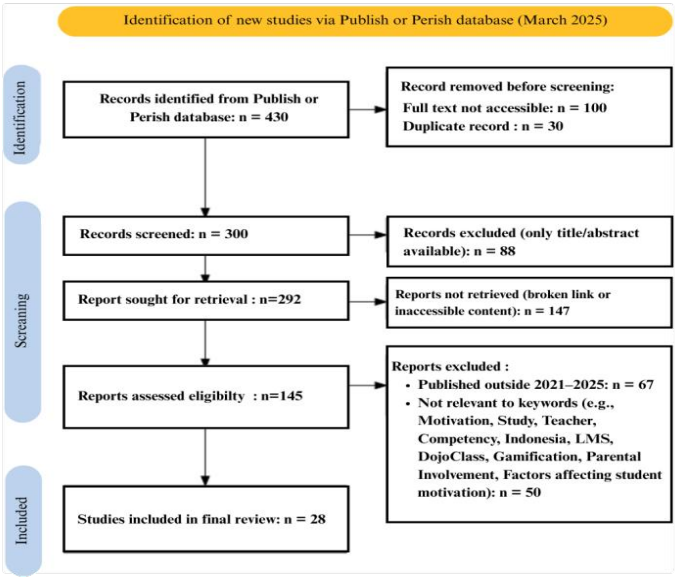

Fig 4. PRISMA Flow Diagram

An overview of the article selection flow used in this Systematic Literature Review (SLR) study is shown in the PRISMA diagram above. This diagram shows the screening process from 430 initial articles to 28 final articles that met the inclusion and exclusion criteria.

The selection process consisted of three filtering stages:

1. **Initial screening** based on publication year and document type (2021–2025; journals, articles, conference papers).
2. **Title, abstract, and keyword review** to identify studies addressing low student motivation, teachers' and parents' roles, LMS use in Indonesia, and ClassDojo implementation.
3. **Full-text assessment** to confirm final eligibility (see Table 1 for a summary of selected studies) [18].

Data extraction was performed using a predefined coding scheme with indicators for publication year, study context (location and language), type of educational technology (LMS or ClassDojo), key findings on technology implementation, parental involvement, and teacher competence (see Table 2) [18]. Extracted data were then synthesized thematically to answer the research questions and inform the interpretation of results.

3 Result and Discussion

The Systematic Literature Review (SLR) method was used in this study. The 28 articles that have been selected and identified will be thoroughly analysed during the data analysis stage. Firstly, each article will be summarized and given a thorough explanation of the topic. The gist of each article's summary is summarized in Table 1 to provide an overview of the focus of each study.

Table 1. Result and Discussion

Year	Article Title	Main Focus	Key Findings
2021	Use of E-Learning Management System (LMS) Enhancement and Motivation during the Pandemic	LMS and Motivation	LMS improves learning motivation and achievement
2021	Improving the Positive Behavior of Primary School Students with the Gamification Tool ClassDojo	ClassDojo	ClassDojo has been shown to be effective in improving elementary school students' positive behaviors, such as class participation, task completion, and respect.
2023	The construction of (good) parents (as professionals) in/through learning platforms	Parental Involvement	ClassDojo can facilitate parental engagement by providing real-time updated child behavior data, as well as direct access to reports and communication with teachers
2024	Effectiveness of Technology Use in Indonesian High Schools: Student Engagement, School Capacity, Teacher Performance	Teacher Involvement	Student involvement, school capacity, and teacher performance have a positive and significant effect on technology effectiveness.

Table 1 explains that various technologies have been implemented in the education system in various countries. In the school environment, commonly used technologies include Learning Management System (LMS), classroom management platforms such as ClassDojo, and social media as learning tools. The main purpose of utilizing these technologies is to increase students' motivation to learn and strengthen parents' involvement in supporting their children's academic development.

The LMS allows learning to be more flexible, accessible, and customizable to the individual needs of students [19]. ClassDojo is one of the most popular LMS in the educational environment. ClassDojo supports communication between teachers, students, and parents, and facilitates digital management of student behavior [10]. In addition, the reward and feedback system in ClassDojo can also improve student discipline and motivation to learn [20].

However, the education system in Indonesia still faces challenges such as low PISA results, lack of higher order thinking skills among students, and inequality in the quality of education between regions [21]. In this context, technology is seen as a potential solution to improve the quality of learning. The use of technology-based learning media is proven to be able to improve students' learning, especially if the teacher is able to utilize it optimally [17]. In addition, support from parents also plays an important role in fostering student interest and achievement, especially in science and technology [22].

ClassDojo is proven to help teachers in managing the classroom during virtual learning periods, especially in establishing better communication with parents and students [23]. Most parents recognized that the use of ClassDojo made children more independent in small things, such as preparing school supplies. They also stated that the platform strengthens the communication link between parents and students, which in turn contributes to the success of the learning process [10].

Thus, the effective use of educational technology such as ClassDojo is highly dependent on teacher competence. Low mastery of digital competencies among teachers can inhibit student participation, lower academic achievement, and even reduce teacher authority in the online classroom [24]. Teachers who are unable to use technology appropriately will find it difficult to establish authority and become role models for students, resulting in low motivation to learn.

In the era of Society 5.0, teachers are required to not only master pedagogical and professional competencies, but also be able to integrate digital technology creatively and innovatively [25]. ClassDojo also promotes a positive school culture through active collaboration between teachers, students, parents, and school leaders. The platform facilitates direct, real-time communication with students' families and encourages parents' involvement in classroom activities on an ongoing basis [26].

Thus, the successful implementation of educational technology such as ClassDojo is highly dependent on teacher readiness and competence. The combination of innovative digital platforms and professional, tech-savvy teachers is the key to creating effective, engaging and meaningful learning experiences for students in today's digital age.

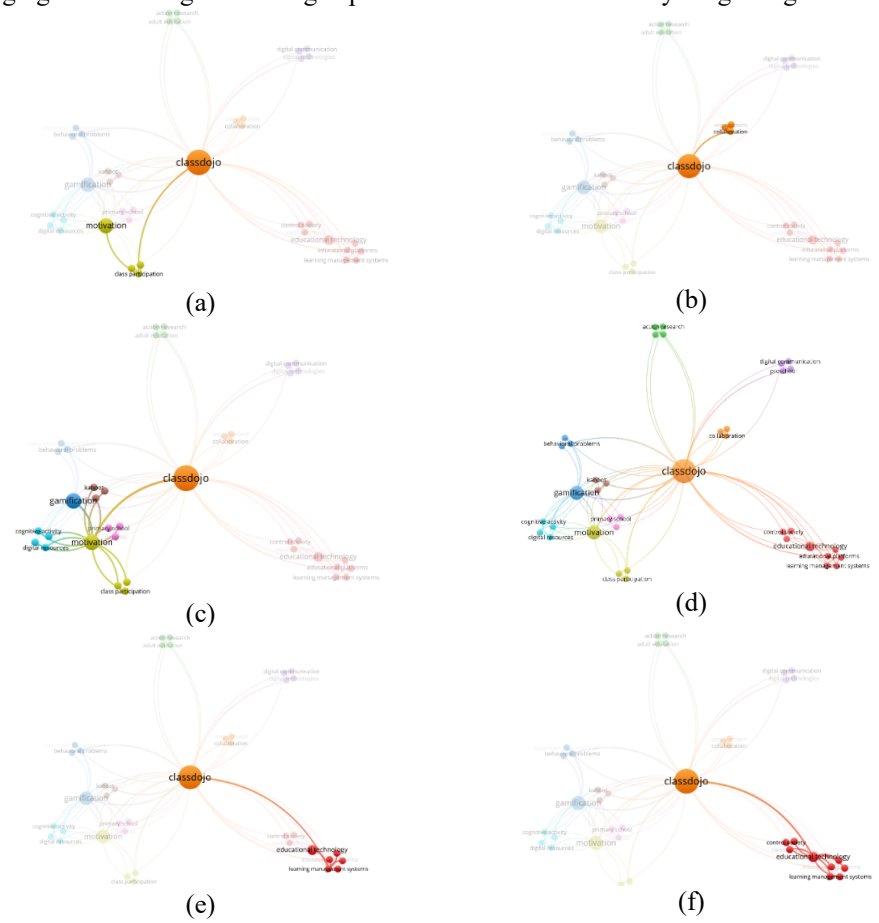

Fig 5a-f. Co-occurrence network visualizations for each main cluster: (a) ClassCollaboration, (b) Collaboration, (c) Motivation, (d) ClassDojo, (e) LearningManagementSystem, (f) EducationalTechnology.

The size of the node represents the frequency of each term, while the thickness of the edge signifies the degree of co-occurrence. These distinct panels allow users to examine intricate connectivity patterns (nodes and links) within each topic cluster.

4 Conclusion & Discussion

This research is a systematic literature review (SLR) of 28 national and international articles that discuss the use of educational technology in formal learning contexts, ranging from elementary school to higher education. The review shows that the integration of technologies such as Learning Management System (LMS) and ClassDojo has been widely studied by researchers in various countries, focusing on learning effectiveness, student behavior change, and teacher and parent engagement.

The study revealed that educational technology significantly contributes to improving learning motivation, classroom management effectiveness, and communication between teachers and parents. In addition, teacher competence in using technology plays an important role in determining the success of implementing digital innovations in learning. Low digital literacy among educators, infrastructure gaps and inequality in parental involvement are still challenges that need to be overcome.

In general, the technology-based learning approaches developed in these studies are in line with the demands of 21st century education which emphasizes adaptive, participatory and collaborative learning. The use of technology not only supports academic aspects, but also supports character strengthening, positive discipline, and communication and social skills.

This SLR has important implications for researchers, teachers and educational institutions. The findings of this study can serve as a reference to improve the effectiveness of technology implementation in education, as well as a consideration in formulating policies and strategies for developing inclusive and sustainable digital learning. In addition, this study also provides a comprehensive picture of the current conditions and challenges of utilizing educational technology in various local and global contexts.

Furthermore, a review of the 28 publications covered in this analysis (ranging from 2021 to March 2025) demonstrates a clear progression in both emphasis and accuracy of methodology. The initial studies (2021–2022) primarily focused on platform-centric engagement measures, examining the impact of Learning Management Systems and ClassDojo capabilities on fundamental motivational outcomes, including login frequency, point accumulation, and observable classroom behaviours. [1] and [10] evidenced that improvements to LMS and the gamification of ClassDojo markedly elevated student enthusiasm and encouraged excellent classroom behaviours. Through the use of multi-dimensional scales that capture the communication quality, frequency, and perceived utility of teacher-parent interactions mediated by ClassDojo, research on parental involvement had moved away from binary "participated/not" measures by 2023 (e.g., [26]).

Recent studies (2024–2025) further incorporates student motivation, parental engagement, and teacher readiness into system-level evaluations, examining how institutional capacity and policy contexts influence effective technology implementation. [3] investigated the combined impact of student engagement, school facilities, and teacher performance on the overall effectiveness of educational technologies in Indonesian high schools. Recent research on teacher digital competence has evolved from basic self-report surveys to mixed-method analyses that examine enablers and barriers, including digital literacy gaps, administrative support, and cultural attitudes. This progression highlights the essential role of teacher readiness in fulfilling the potential of platforms such as ClassDojo. The evolution from isolated feature testing to mediated home-school partnerships and holistic ecosystem assessments underscores the development of ClassDojo research and establishes a clear direction for future investigations.

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