

Re - Designing Focus in Legal Education: The Development of Pomo Law – No

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ABSTRACT

This paper introduces ‘Pomo Law-No’, an innovative law-themed card game integrated with a focus control device designed to enhance law students’ learning experiences. Legal education often requires students to comprehend complex and abstract concepts, demanding sustained attention. However, many law students struggle with engagement and concentration, frequently due to distractions from mobile devices. ‘Pomo Law-No’ addresses these challenges by combining interactive, game-based learning with a focus-control device modeled on the ‘Pomodoro Technique’, which restricts phone use during study sessions. The game requires players to answer law questions through engaging activities that foster active learning and lively discussions. This approach not only makes legal education more interactive but also supports the development of better study habits and self-regulation among students. Employing a qualitative, concept-driven methodology, the research draws upon established theories in game-based learning, focus management, and legal pedagogy. Findings indicate that integrating game-based learning with structured focus-control significantly enhances student engagement, concentration, and retention in legal education. For future studies, it is recommended to explore the long-term effects of Pomo Law-No on academic performance, its applicability in other fields of study, and its effectiveness in diverse educational settings. Such investigations could provide deeper insights into the broader impact and adaptability of this innovative tool across various learning environments.

Keywords: Legal education, Game-based learning, Law students, Focus control, Pomodoro Technique

INTRODUCTION

Legal education is evolving in response to the challenges posed by modern technology, diverse student needs, and the growing complexity of legal systems. The increasing prevalence of digital distractions and changing learning preferences demand innovative approaches to engage students and maintain their focus. This paper situates the discussion within the broader context of higher education, where active participation, motivation, and deep comprehension are essential for student success. Recent studies highlight that law students, in particular, face mounting pressure to absorb large volumes of information and develop critical thinking skills within limited timeframes. These trends underscore the urgency of exploring new pedagogical strategies, such as game-based learning and structured focus management, to better support learners in legal education.

Law education requires a deep and broad understanding of complex legal concepts from the very start, with focused attention. However, most law students struggle to concentrate due to various issues in their learning environment. Most notably, frequent distractions from mobile devices hinder their focus. This lack of concentration can negatively impact students’ understanding and engagement with legal subjects.

Traditional methods of teaching law primarily rely on lectures and text-based materials, which may not always encourage active participation. Consequently, students often find learning law challenging and less engaging. Therefore, there has been growing recognition of game-based learning as an effective way to promote interaction, motivation, and deeper understanding among students.

At the same time, some focus-management techniques, like the Pomodoro method, which helps improve focus, are seldom integrated into learning tools used in legal education. This creates a gap between engagement-focused learning methods and focus control mechanisms.

The paper, therefore, explains the development of Pomo Law-No, a card game centered on legal themes, combined with a focus-enhancing device. This card game, designed for law students, requires players to answer legal questions during structured sessions in which phone access is strictly restricted.

LITERATURE REVIEW

The literature on legal education, active learning, and focus control is rapidly expanding, reflecting growing interest in innovative teaching strategies. Recent research emphasizes the intersection of cognitive psychology, educational technology, and gamified learning as key factors in enhancing student outcomes. Scholars argue that fostering intrinsic motivation and self-regulation can be as important as delivering content knowledge, especially in demanding disciplines like law. Furthermore, studies on the impact of digital devices in classrooms reveal a complex relationship among technology use, student engagement, and learning efficacy, suggesting that well-designed interventions are necessary to mitigate distractions while leveraging technology's benefits. This review synthesizes core findings from foundational theories and contemporary studies, highlighting gaps and opportunities that inform the development of Pomo Law-No.

Active Learning and Student Engagement

Foundational pedagogical theories include behaviorism, cognitivism, constructivism, and connectivism (Giannoukos, 2024). Active learning emphasizes student engagement and participation, offering benefits such as increased motivation, improved retention of material, and the development of critical thinking skills through activities like group work and problem-solving (Dogani, 2023). Inquiry-based learning (IBL) is an innovative educational trend that encourages student ownership of learning and develops higher-order skills (Younas, 2020). Research has shown that the inquiry learning model significantly increases student activity. Students become more responsive, more enthusiastic, ask more questions, and enjoy discovering new knowledge (Husni, 2020). Similarly, Experiential Learning Theory, proposed by Kolb's learning cycle, is a core concept in experiential education, especially in higher education (Kolb & Kolb, 2022). These pedagogical approaches help students learn better and prepare them mentally and physically to participate actively in learning activities.

Technology has increasingly been integrated into educational settings to foster active learning and engagement. Digital tools, game-based learning, and interactive platforms have been shown to boost motivation and participation by making learning more dynamic and learner-centered (Deterding et al., 2011). While it has the potential to enhance engagement, excessive use of technology can lead to distractions, reduced focus and attention, and superficial learning (Rosen et al., 2013). Findings reveal that digital distractions from social media, messaging apps, and entertainment primarily diminish students' ability to concentrate during study and lectures (Raksha, 2025). Therefore, effective learning tools must be balanced to ensure that continuous engagement results in meaningful learning outcomes.

Memory and Cognitive Science

Understanding the nature of practical memory is crucial for designing effective learning strategies. A key concept is the Ebbinghaus Forgetting Curve, which explains how information tends to be lost over time, especially when there is no effort to retain it (Logie et al., 2022). Spaced repetition improves long-term memory retention for multilingual learners by scheduling reviews at ideal intervals, helping to counteract the forgetting curve (Kalievna et al., 2025). Research shows that techniques like spaced repetition and active recall

significantly slow this forgetting process by consistently reinforcing information at the right times (Cepeda et al., 2006). Active recall boosts memory retention when learners actively try to retrieve information rather than passively reviewing it.

Another concept relevant to learning design is Cognitive Load Theory, which posits that learners have limited working memory capacity and identifies three types: intrinsic, extraneous, and germane (Sweller, 1988). Breaking information into chunks prevents cognitive overload, bypasses working memory limits, and allows focus on smaller, meaningful units, leading to improved understanding. Cognitive psychology tells us that working memory can hold about seven chunks of new information and can only work on four (Miller, 1956). This is where chunking comes in: by breaking content into smaller units, we reduce mental load, enabling students to transfer information from working memory to long-term memory more efficiently (Sharkey, 2025).

Time Management and Productivity Techniques

Effective time management plays a crucial role in maintaining attention and improving academic performance. One of the applied methods is the Pomodoro Technique, which involves 25 minutes of focused work followed by a short break (Cirillo, 2006). Quantitative data indicate that the Pomodoro technique is more effective than the Flowtime technique in memory retention, academic performance, and time management (Biray et al., 2025). However, its application in complex academic subjects, such as legal education, may be limited because learners have varying attention spans and learning needs.

The concept of flow, introduced by Csikszentmihalyi (1990), describes a highly focused mental state in which individuals engage intensely in an activity, often leading to peak performance. Achieving a flow state boosts motivation, enjoyment, and learning outcomes. During flow, people often experience a sense of timelessness, complete concentration, and intrinsic enjoyment of the task, while feeling a deep sense of control over their actions (Tyler, 2024).

Justification: According to the existing literature, Pomo Law-No is designed to incorporate principles from active learning theories, cognitive science, and time management techniques into an educational game-based tool. While strategies like the pomodoro technique, active recall, flashcards, quiz tools, and educational gamification apps exist, none systematically combine these elements within a structured pedagogical approach for both lecturers and students. Pomo Law-No can address this gap by applying time-structured learning sessions with interactive, game-based activities that foster active participation, continuous recall, and high focus. Additionally, it transforms passive memorization into an engaging learning experience while aligning with cognitive and educational theory.

METHODOLOGY

Research Design and Framework

The study employed a mixed-methods quasi-experimental design comprising three phases: initial conceptual design, iterative prototyping of game mechanics, and a controlled pilot test. This framework integrates the Pomodoro Technique for structured time management with Game-Based Learning (GBL) to address digital distractions and cognitive overload in legal education.

3.2 The Pomo Law-No Intervention

The intervention transforms traditional passive learning into an interactive environment through two primary mechanisms:

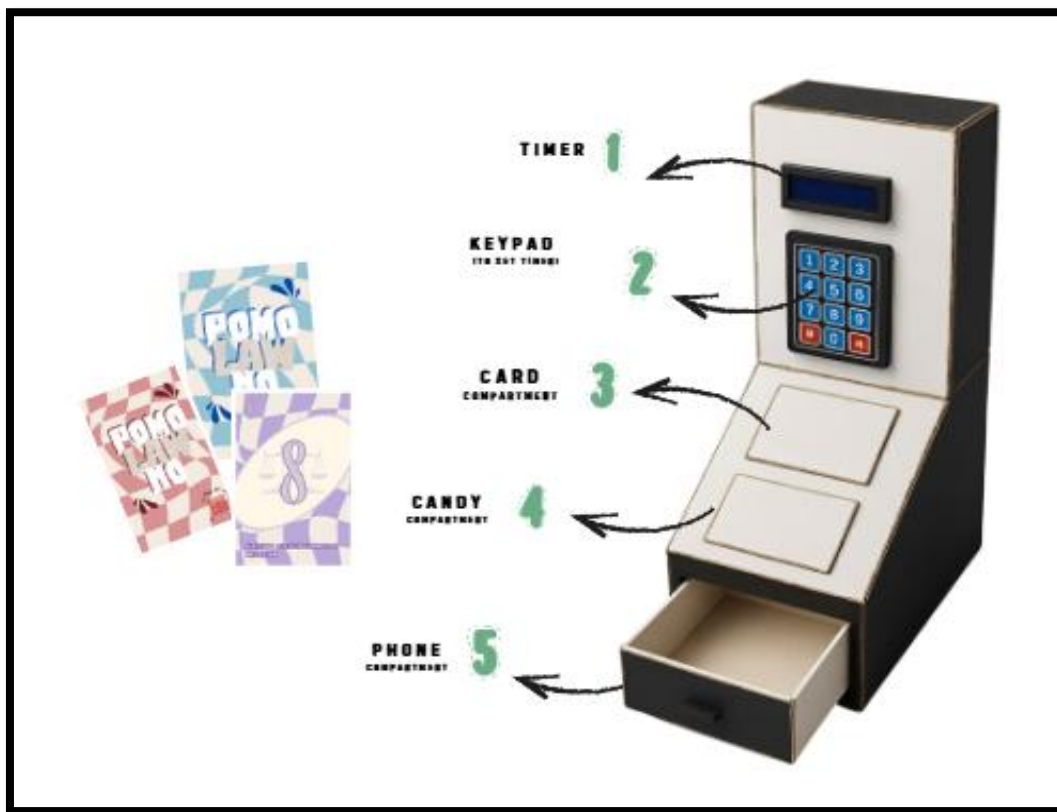
- a. **The Pomodoro Cycle:** Lectures are segmented into 25–30 minute instruction blocks followed by structured "Pomodoro breaks".
- b. **Active Recall Mechanics:** During breaks, students engage with law-themed question cards, utilizing QR codes for immediate feedback and self-correction.
- c. **Focus Control:** Focus control was operationalized through a physical phone-lock compartment with an integrated countdown timer.

Comparative Framework

The study evaluates the **Pomo Law-No** intervention by contrasting it with traditional pedagogical approaches. The following table summarizes the operational differences between the Control and Experimental conditions:

Feature	Traditional Approach (Control)	Pomo Law-No (Experimental)
Time Management	Continuous lecture/study without structured breaks.	Pomodoro Technique: 25-30 minute focus blocks followed by 5-minute cycles.
Focus Control	Permissive; students manage their own device distractions.	Active Restriction: Physical or software auto-lock mechanism to prevent smartphone use.
Learning Mode	Passive; reliance on lectures and text-based materials.	Active Recall: Gamified interaction using law-themed question cards.
Feedback Loop	Delayed; manual checking or post-lecture review.	Immediate: Instant validation of legal concepts via QR code scanning.

Pomo Law-No Tool



Data Collection and Instrumentation

To ensure a holistic evaluation, data were triangulated using both qualitative and quantitative instruments:

- Quantitative:** Pre- and post-test assessments were used to measure gains in academic performance, concentration levels, and student engagement.
- Qualitative:** Focus groups, classroom observations, and semi-structured interviews were conducted to capture the "lived experience" of students and lecturers.
- Ethics:** All procedures followed strict ethical protocols, including informed consent and data anonymization.

Participants and Limitations

The pilot study involved a specific group of law students (n=44). This size was intentionally chosen to ensure technical and logistical feasibility during the initial testing phase of the Pomo Law-No prototype. Although the sample is small, the methodology emphasizes internal validity by using a controlled comparison with traditional study routines. Limitations regarding the study's broader applicability are further discussed in the discussion section.

Statistical Analysis

To evaluate the efficacy of the Pomo Law-No intervention, data were analyzed using IBM SPSS Statistics.

- a. **Descriptive Statistics:** Means (M) and Standard Deviations (SD) were calculated for engagement, recall accuracy, and distraction levels.
- b. **Inferential Statistics:** An independent samples t-test was conducted to compare the mean scores of the Experimental Group (n=22) and the Control Group (n=22).
- c. **Significance Level:** The threshold for statistical significance was set at $\alpha = .05$.

FINDINGS

The findings from this mixed-methods study provide in-depth insights into the effectiveness and user experience of Pomo Law-No. Qualitative feedback from students and instructors highlighted increased motivation, enjoyment, and a sense of accomplishment during study sessions using the tool. Observational data revealed enhanced collaboration and peer learning, with students more willing to participate and help each other solve legal questions. Quantitative results demonstrated statistically significant improvements in engagement, focus, and academic performance among participants who used Pomo Law-No, with effect sizes indicating practical significance for classroom implementation. The findings also suggest that structured focus intervals and game-based activities can mitigate the negative impact of digital distractions, leading to more sustained attention and deeper learning.

The results can be grouped into several user-evaluated categories. First, the product was seen as engaging and well-balanced, which supported an effective learning process. Second, the game promoted active involvement and sustained focus, facilitating effective learning. Next, participants perceived the physical quality of the cards as a contributing factor to the tool's usability and long-term durability. Lastly, users evaluated the packaging as a functional component for organizing learning materials, enabling efficient organization and repeated use.

Table 2. User - Evaluated Data (n = 44)

Question	User – Evaluated Categories	Mean	Standard Deviation	Respondents in Agreement (% , out of 44 respondents)
1	<i>Fun , balanced and effective learning</i>	4.82	0.39	99
2	<i>Game helps promoting effective learning</i>	4.75	0.44	96.2
3	<i>Excellent quality of cards</i>	4.60	0.58	92
4	<i>Box / packaging is convenient and durable</i>	4.71	0.47	95.3

Engagement and Performance

This study examined the impact of Pomo Law - No on student engagement and academic performance by comparing a control group that used traditional study methods with an experimental group that incorporated this game into their learning. The control group followed standard lectures and independent study routines,

while the experimental group participated in structured study intervals, interactive question cards, and timed breaks facilitated by Pomo Law - No.

This study examined the impact of Pomo Law - No on student engagement and academic performance by comparing a control group (n = 22) that used traditional study methods with an experimental group (n = 22) that applied Pomo Law - No during structured learning sessions.

The control group followed standard lectures and independent study routines, while the experimental group engaged in structured study intervals, interactive question cards, and timed breaks facilitated by Pomo Law - No.

Engagement

Quantitative data indicates a strong positive correlation between using Pomo Law-No and higher student engagement during both lectures and independent study. The structured intervals of focused work, combined with interactive learning through law-related question cards and immediate responses via QR code scanning, fostered active participation and reduced mental fatigue. This organized approach likely prevents cognitive overload and encourages consistent attention to the learning material.

The experimental group had a higher average engagement score (M = 4.63, SD = 0.38) compared to the control group (M = 3.72, SD = 0.51). This indicates that the structured intervals and interactive elements significantly improved sustained attention and active participation during learning activities.

While most participants benefited from the structured intervals, a significant observation was that a small group of students initially experienced 'timer anxiety,' where the 25-minute limit felt restrictive rather than helpful. This indicates that although the Pomodoro Technique generally reduces cognitive load for most, its effectiveness may depend on individual differences in baseline attention spans and stress levels.

Academic Performance

In terms of academic performance, the experimental group achieved higher exam scores than the control group. Students demonstrated more disciplined study habits and a greater ability to apply learned concepts during assessments. These improvements suggest that consistent use of Pomo Law - No not only increased motivation and attention but also led to measurable gains in learning outcomes. Variations in engagement levels among students with different prior academic achievements further indicate that the tool can support diverse learning needs.

In terms of academic performance, the experimental group achieved a higher mean examination score (M = 85.40%, SD = 6.12) compared to the control group (M = 72.35%, SD = 8.45). An independent samples t-test revealed that the difference in examination scores between the two groups was statistically significant, $t(42) = 5.89, p < .001$.

These results show that consistent use of Pomo Law - No not only improved motivation and attention but also led to measurable gains in academic outcomes. Differences in engagement among students with various prior academic achievements further indicate that the tool can support diverse learning needs.

Table 2.1 : Examination Score (%)

Examination Score (%)	Control	22	72.35	8.45
	Experimental	22	85.40	6.12
Engagement Score	Control	22	3.72	0.51
	Experimental	22	4.63	0.38

Retention and Recall

The Experimental Group, which utilized the Pomo Law-No tool, achieved a significantly higher mean examination score ($M=85.40\%$, $SD=6.12$) compared to the Control Group ($M=72.35\%$, $SD=8.45$). The t-test results ($t(42)=5.89$, $p<.001$) indicate that the improvement in academic performance is statistically significant and unlikely to be due to random variation. Furthermore, recall accuracy was markedly higher in the experimental group ($M=83.15\%$) than in the control group ($M=70.82\%$), supporting the use of active recall and spaced repetition embedded in the game mechanics.

This shows that during gameplay, students were repeatedly exposed to key legal concepts and given the opportunity to revisit incorrect responses, reinforcing active recall. This process encouraged deeper cognitive processing, helping transfer information from short-term to long-term memory. When similar questions appeared in later sessions, students demonstrated increased accuracy and confidence, confirming the tool's effectiveness in supporting long-term retention.

These findings suggest that Pomo Law not only maintains engagement during study sessions but also strengthens memory consolidation. The combination of structured time intervals, interactive question-based activities, and repeated review contributes to improving comprehension and retention of complex legal concepts.

Distraction Reduction

Self-distraction, especially in technology-rich environments, remains a significant barrier to effective learning. In this study, Pomo Law-No was designed to address this issue by integrating the Pomodoro Technique with physical distraction controls, such as a phone auto-lock feature.

Engagement levels were measured on a 5-point scale, with the Experimental Group reporting closer sustained attention ($M=4.63$, $SD=0.38$) than the Control Group ($M=3.72$, $SD=0.51$).

- a. **Distraction Levels:** Students in the experimental condition reported significantly lower self-distraction levels ($M=4.58$).
- b. **Behavioral Observation:** This aligns with classroom observations showing that the physical phone-lock feature decreased the frequency of off-task digital behavior.

Observations showed reduced engagement with smartphones and social media during study sessions because the phone compartment lock prevented access until the timer expired. This physical enforcement of focus, combined with structured study intervals, helps to minimize opportunities for off-task behavior.

The reduction in self-distraction contributed to longer attention spans and more effective learning. By limiting external interruptions and promoting disciplined study habits, Pomo Law - No demonstrated its ability to enhance concentration, supporting both engagement and academic performance.

DISCUSSION

This section interprets the study's findings within the broader discourse on educational innovation and legal pedagogy. The positive results confirm the value of integrating active learning strategies and focus-control mechanisms in legal education. The study supports existing theories of cognitive load, spaced repetition, and the importance of student agency in learning. Moreover, the observed increase in peer collaboration and self-regulated learning suggests that tools like Pomo Law-No can foster essential skills beyond mere content mastery. Nevertheless, the limitations of sample size and study duration warrant caution in generalizing these results. Future research directions include expanding the tool's application to other disciplines and exploring its efficacy in diverse educational contexts, such as online and hybrid classrooms. Implications for practice, policy, and curriculum design are also discussed, with recommendations for educators seeking to enhance student engagement and focus.

Analysis of Results

The findings of this study demonstrate that Pomo Law - No effectively enhanced student engagement, improved retention and recall, and reduced self-distraction during learning activities. The structured time intervals, adapted from the Pomodoro Technique, allowed students to focus during clearly defined periods, likely helping prevent cognitive fatigue and sustain attention. As a result, students showed higher levels of engagement during lectures and independent study sessions.

The integration of interactive, law-based question cards further enhanced learning effectiveness by encouraging active participation and immediate recall of previously learned content. Additionally, the phone's auto-lock feature played a crucial role in reducing off-task behavior by physically restricting smartphone access during timed study sessions. This combination of structured breaks, active recall, and distraction control explains the observed improvements in academic performance, memory retention, and focus among students using Pomo Law-No.

Pedagogical Implications

The results of this study have significant implications for the design of teaching and learning in higher education. Pomo Law-No shows that combining time-management techniques with interactive and gamified learning tools can turn traditionally passive learning environments into active and engaging experiences. Although the tool was created specifically for law students, its framework can be adapted to other fields that require sustained focus and memorization, such as medicine, engineering, language learning, and social sciences.

From a broader perspective, these findings indicate that future learning strategies should emphasize attention management and learner self-regulation. As digital distractions increase, educational tools that combine cognitive principles and behavioral controls may become vital. Pomo Law-No signifies a move toward holistic learning environments that address not only content delivery but also students' focus, motivation, and study habits.

Furthermore, Pomo Law-No could be integrated into 'Flipped Classroom' models, which are increasingly adopted at institutions like Universiti Kebangsaan Malaysia (UKM) and Universiti Teknologi MARA (UiTM). In a 'Flipped Classroom,' students review instructional content before class and use class time for interactive problem-solving and discussion. The structured study intervals, interactive question cards, and distraction control features of Pomo Law-No could support pre-class learning, improve preparation for in-class activities, and reinforce knowledge through active recall.

Comparison to Literature

The findings of this study align with existing literature on cognitive load theory, spaced repetition, and self-regulated learning. Cognitive load theory emphasizes that learning is more effective when extraneous cognitive load is minimized. By limiting smartphone access through a physical lock, Pomo Law reduces external distractions, allowing students to allocate their cognitive resources more efficiently to learning.

Furthermore, the structured intervals and repeated exposure to learning materials align with the principles of spaced repetition and retrieval-based learning. Prior studies suggest that repeated recall over time enhances long-term memory retention. The improved recall and retention observed in this study provide practical validation of these theories by demonstrating how they can be implemented through a physical game-based learning tool rather than solely through digital applications.

Limitations and Future Research

While the findings of this study provide robust preliminary evidence for the efficacy of Pomo Law-No, several limitations must be acknowledged to contextualize the results:

- a. **Sample Size and Generalizability:** The pilot study used a small sample size (n=44) limited to a specific group of law students. While this size was suitable for a quasi-experimental pilot aimed at internal validity, it restricts the immediate generalizability of the results to larger, more diverse student populations.
- b. **Temporal Constraints:** The intervention was assessed over a relatively short academic period. As a result, the study cannot definitively determine whether the observed improvements in focus and engagement will lead to long-term behavioral changes or sustained academic success throughout an entire degree program.
- c. **Subject Specificity:** The current version of the tool was designed around core legal concepts. Future studies should use stratified sampling to assess the tool's effectiveness in specialized legal areas, like Criminal or Contract Law, to see if the complexity of the subject affects the usefulness of the Pomodoro cycles.
- d. **Longitudinal and Comparative Studies:** Future research should focus on longitudinal designs to monitor "study habit decay" over time. Additionally, expanding the framework to other high-stakes disciplines—such as medicine or engineering—would help validate Pomo Law-No as a cross-disciplinary pedagogical tool.
- e. **Collaborative Dynamics:** While the current study touched on peer interaction, further research is needed to explore how the tool works in purely collaborative, non-proctored settings, such as independent peer-based study sessions.

CONCLUSION

In summary, Pomo Law-No offers a promising solution to the challenges of student engagement and focus in legal education. By combining principles from cognitive science, educational psychology, and game-based learning, the tool provides a new approach that meets both students' motivational and cognitive needs. The evidence in this study shows improvements in engagement, academic performance, and distraction reduction. Although more research is needed to evaluate long-term effects and scalability, the findings indicate that integrating structured focus-control and interactive learning tools can significantly improve the educational experience. Educators and policymakers are encouraged to consider such innovations as part of broader efforts to modernize and enhance legal education.

Pomo Law-No was created in response to increasing problems of student disengagement and challenges like short attention spans and quick distractions in today's learning environment. It is also designed as a game-based study tool that combines active recall and repetition while answering law-related questions. This product offers a unique method for both instructors and students, allowing instructors to use it during class to lessen student boredom. Our data show that Pomo Law-No significantly increases engagement, enhances memory retention, and helps students stay focused during their study sessions.

Furthermore, the impact of Pomo Law-No goes beyond just enhancing study habits, as it could transform how both teachers and students experience learning. By blending strong academic principles, Pomo Law-No shows how innovative and tech tools can bring real change to today's classrooms. It proves how modern educational supports can make learning more effective, enjoyable, and purposeful for everyone.

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