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RESEARCH ARTICLE

Integration of Case-Based Learning and Student Logbook to Enhance Self-Regulation in Pre-Service Teacher Education

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ABSTRACT

This study examines the effectiveness of integrating Case-Based Learning (CBL) and a weekly logbook in enhancing self-regulation among pre-service teachers. Addressing challenges such as procrastination and digital distractions, the intervention aimed to foster essential skills for managing academic and professional responsibilities. This study employed a mixed-method approach to evaluate the effectiveness of integrating Case-Based Learning (CBL) with a Student Logbook in enhancing self-regulated learning among 15 pre-service teacher students. Data was collected through initial and final focus group discussions (FGDs) and a self-regulation questionnaire. The FGDs explored time management challenges and strategies before and after the intervention, while the questionnaire measured self-regulation levels using a five-point Likert scale. Qualitative data were analyzed thematically, and quantitative data were analyzed descriptively, providing a comprehensive evaluation of the intervention's impact. The results revealed significant improvements in participants' self-regulation skills, such as planning, time management, and task prioritization. This study highlights the critical role of integrating reflective practices and active learning strategies in teacher education programs, equipping future educators to meet the demands of 21st-century teaching environments.

INTRODUCTION

Teachers play a pivotal role in shaping the next generation. To prepare students for the complexities of modern challenges, educators must impart knowledge and develop critical 21st-century learning skills, including problem-solving, critical thinking, and adaptability. Research has highlighted the effectiveness of Case-Based Learning (CBL) in cultivating these skills by actively bridging the gap between theoretical knowledge and real-world applications. Tsekhmister (2023) underscores that CBL not only enhances students' academic performance but also significantly boosts their capacity to analyze real-world cases, providing a robust foundation for critical thinking and adaptability. Additionally, Raza, Qazi, and Umer (2019) find that CBL fosters a significant and positive relationship between engagement in learning and the development of complex skills, further validating its role in preparing students to tackle complex real-world problems. The case-based method is recommended to foster these essential skills and promote engagement through contextual and practical scenarios. By presenting real-life cases, CBL stimulates critical thinking and prepares students to address complex problems they will face post-graduation.

Case-Based Learning (CBL) is increasingly recognized as a potent pedagogical method in higher education, where lecturers design and present real-world cases that align closely with the learning objectives, effectively integrating theory with practical application . This method engages students actively in three pivotal phases: preparation before class, participation during class, and reflection after class. According to Wibisono (2014), these phases are structured as follows: (A) Pre-class,

where students receive and prepare cases individually and participate in small group discussions; (B) In-class, involving questioning and dynamic discussions; and (C) Post-class, where students compare their personal analyses with peers and review key concepts. While in-class activities are closely supervised, the lack of oversight during the pre- and post-class phases can impact the successful integration of CBL. Therefore, self-regulation is essential to ensure these phases are effectively managed.

Building on the structure of Case-Based Learning discussed previously, it is crucial for pre-service teachers to not only acquire 21st-century skills but also to develop robust self-regulation abilities, which are essential both during their academic training and in their future professional roles. Research indicates that self-regulation significantly influences pre-service teachers' ability to balance academic and professional responsibilities effectively (Fernández Ortube, Panadero, & Dignath, 2024). However, the prevalence of modern distractions such as social media poses significant challenges to this development, as excessive engagement often interferes with their focus and time management (Xu et al., 2023). Initial interviews conducted for this study revealed that many pre-service teachers struggle with effectively managing their time and responsibilities. Common challenges identified include procrastination and over-reliance on non-academic activities, which detract from their educational objectives. Furthermore, strategies such as tailored self-regulation prompts and structured interventions have been shown to help pre-service teachers enhance their self-discipline and academic engagement (Kara, Kukul, & Çakır, 2020; Deng, Zhou, & Broadbent, 2024).

Further compounding the challenges highlighted earlier, social media, a significant part of students' daily lives, requires careful self-regulation. Individuals with high self-regulation levels are better equipped to manage their social media usage, reducing distractions and maintaining focus on academic goals (Sánchez-Fernández & Borda-Mas, 2023). Excessive smartphone use among university students has been found to negatively impact academic outcomes, contributing to procrastination and stress related to fear of failure. Enhancing self-regulation skills is an effective strategy to mitigate problematic smartphone use, fostering better academic performance and mental well-being. This underscores the urgent need for pre-service teachers to develop robust self-regulation strategies to balance their personal and academic lives effectively.

Self-regulation encompasses the internal processes that enable individuals to control their thoughts, emotions, and actions in pursuit of specific goals. These processes involve setting clear objectives, monitoring progress, and adopting strategies to align behaviors with desired outcomes (Panadero, 2017). Among the key skills in self-regulation, time management plays a pivotal role, allowing students to plan and allocate their time effectively to focus on academic priorities (Wolters & Brady, 2021). By fostering self-regulation, students not only enhance their independence and accountability but also develop resilience against distractions that can impede their progress. Moreover, improved self-regulation skills have been shown to positively influence personal growth and academic success, underscoring their importance in education (Deng, Zhou, & Broadbent, 2024).

A logbook serves as a detailed record where student-teachers document their practical tasks, projects, and research activities, providing a comprehensive account of their learning experiences and achievements. It plays a vital role in fostering reflective practices, enhancing teaching skills, and promoting self-directed professional growth (Endedijk, Brekelmans, Sleegers, & Vermunt, 2016). Effective logbooks should be inexpensive, feasible, and acceptable to students while offering feedback through guidance, raising awareness of educational objectives, and simplifying the evaluation process (Karlen, Bäuerlein, & Brunner, 2023). Furthermore, logbooks enable both students and teachers to track individual progress, thereby supporting the holistic development of each student (Jud, Karlen, & Hirt, 2024). They also create a framework for classifying strategies to achieve educational goals. By requiring students to document and reflect on their progress, logbooks encourage better time management, goal-setting, and self-monitoring, which are essential components of self-regulation.

In this study, the students' logbook is designed to enhance self-regulation by integrating the Know-Want-Learn (KWL) framework with the Specific-Measurable-Achievable-Realistic-Timely (SMART) goals template. The KWL framework encourages students to articulate what they know (K), what they want to learn (W), and what they have learned (L), fostering structured planning and reflection. Incorporating SMART goals into the "Want" section guides students to establish clear, actionable objectives, promoting effective goal-setting and self-monitoring practices (Karlen, Bäuerlein, & Brunner, 2023). The logbook includes sections such as a student header, the KWL framework enriched with SMART goals, a reflection section for evaluating progress, and a feedback area for self-assessment and teacher comments. This structure supports self-regulation by encouraging students to plan, monitor, and evaluate their learning processes effectively (Jud, Karlen, & Hirt, 2024; Endedijk, Brekelmans, Sleegers, & Vermunt, 2016).

In today's fast-evolving educational landscape, equipping pre-service teachers with essential self-regulation skills and strong academic foundations has become increasingly critical. Effective self-regulation enables educators to manage their time, prioritize tasks, and maintain focus amidst challenges such as procrastination and digital distractions. Additionally, enhanced self-regulation often translates into improved academic performance, which is vital for future educators to excel in their professional roles.

This study investigates how the integration of Case-Based Learning (CBL) and the use of a weekly logbook within teacher education programs can simultaneously enhance their self-regulation. CBL provides an active learning framework that encourages critical thinking and problem-solving by engaging students in real-world scenarios. When paired with the reflective practice facilitated by a weekly logbook, this approach cultivates planning, self-monitoring, and task prioritization.

The study aims to provide detailed insights into the benefits and challenges of implementing CBL and weekly logbooks in teacher training programs. By exploring these innovative approaches, it addresses the growing need for adaptive, self-regulated educators who can meet the demands of 21st-century teaching environments. Furthermore, the findings contribute to the broader discourse on enhancing teacher education by highlighting how reflective and active learning strategies can improve both self-regulation skills and academic outcomes.

LITERATURE REVIEW

Self-regulation

Self-regulation involves internal processes that enable individuals to control their thoughts, emotions, and behaviors to achieve specific goals, integrating cognitive, metacognitive, motivational, and emotional components. It is essential for academic success, fostering autonomy, adaptability, and enhanced problem-solving skills (Nückles et al., 2020; Kim et al., 2023). Instructional strategies like goal-setting and reflective practices further strengthen self-regulation and improve learning outcomes (Villatoro Moral & de Benito, 2021). For pre-service teachers, self-regulation is critical, as it helps them manage their learning and prepare to teach these skills to students. It enhances their ability to plan, monitor, and evaluate teaching practices, leading to greater efficacy and adaptability (Fernández Ortube et al., 2024). Research shows that fostering self-regulated learning in pre-service teachers improves academic achievement and teaching strategies (Karaman, 2024), while their beliefs about self-regulated learning significantly influence their use of cognitive and metacognitive strategies, crucial for academic and teaching success (Vosniadou et al., 2021).

Academic Perfomance

Academic performance refers to a student's achievement in educational activities, typically measured through grades, test scores, and the successful completion of coursework. Several factors influence academic performance, including cognitive abilities, motivation, study habits, and self-regulation skills. Self-regulation, which involves managing one's thoughts, emotions, and behaviors toward goal

attainment, plays a significant role in academic success. Research indicates that deficiencies in self-regulation can impede academic performance, while effective self-regulation enhances learning outcomes (Panadero et al., 2023). Interventions aimed at improving self-regulation have been shown to positively affect students' academic skills, suggesting that fostering these skills can be beneficial for educational achievement (Fedewa & Toland, 2022).

Case-Based Learning

Case-Based Learning (CBL) is an instructional approach that engages students in analyzing and solving real-world scenarios, thereby enhancing their analytical skills, reflective thinking, and collaborative abilities. By working through complex cases, learners develop critical thinking and problem-solving competencies, which are essential for academic success. The collaborative nature of CBL encourages teamwork and communication, fostering a deeper understanding of the subject matter. Furthermore, CBL promotes self-regulated learning by requiring students to assess their understanding, identify knowledge gaps, and seek out necessary information, leading to improved academic performance. Studies have shown that integrating collaboration scripts and self-regulation strategies within CBL can enhance learning outcomes and support the development of essential skills (Panadero et al., 2023).

Logbooks as Learning Tools

A logbook is a structured tool that enables students to document their learning experiences, facilitating reflection, planning, and self-assessment in independent study. By systematically recording their progress, students can critically evaluate their understanding and identify areas for improvement, thereby enhancing self-regulation skills. Research indicates that the use of logbooks promotes self-regulated learning behaviors, leading to improved academic performance. For instance, a study by Fedewa and Toland (2022) found that self-regulation interventions, which include reflective practices like logbook usage, positively impact students' academic outcomes. Similarly, Panadero et al. (2023) demonstrated that tools fostering self-assessment and reflection contribute to better academic results by enhancing self-regulatory capabilities.

METHODOLGY

This study employed a mixed-method approach to investigate and evaluate self-regulated learning behaviors among 15 pre-service teacher students before and after an intervention integrating Case-Based Learning (CBL) with a Student Logbook. Data were collected through initial and final focus group discussions (FGD Initial and FGD Final) and a self-regulation questionnaire.

1. Focus Group Discussions

FGD Initial was conducted to explore students' challenges in time management and strategies for task completion. After the intervention, which comprised six sessions of CBL integrated with a Student Logbook, FGD Final was conducted to assess changes in students' time management challenges and strategies. Both FGDs used the same semi-structured questions, focusing on the difficulties students faced in managing time effectively and strategies employed to overcome these challenges.

The FGDs were transcribed verbatim and analyzed using thematic analysis. Open coding was employed to identify key ideas, which were grouped into broader categories through axial coding. These categories were synthesized into main themes, providing a detailed understanding of students' behaviors and challenges.

2. Self-Regulation Questionnaire

A five-item self-regulation questionnaire was administered at the end of the intervention to quantitatively measure students' self-regulation levels. The questionnaire employed a five-point

Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), and included both positively and negatively worded items to minimize response bias. For instance, a positively worded item asked whether students planned their tasks effectively to meet deadlines, while a negatively worded item stated, "I procrastinate, which prevents me from completing tasks on time." Responses from negatively worded items were reverse-scored to maintain consistency in analysis. Descriptive statistics, including mean and standard deviation, were used to analyze the data, providing quantitative insights into the students' self-regulation levels following the intervention.

3. Data Integration

The findings from the FGDs and the questionnaire were triangulated to ensure validity and provide a comprehensive evaluation of the intervention's impact. While the FGDs captured detailed qualitative insights into students' behaviors and challenges, the questionnaire offered a quantitative perspective on their self-regulation levels. This mixed-method approach provided a robust assessment of the effectiveness of the CBL and Student Logbook intervention in enhancing students' time management and self-regulated learning behaviors.

RESULTS

1. Initial Focus Group Discussion

The thematic analysis of the initial FGD identified **internal barriers to time management** as the most significant challenge, reported by seven participants. These barriers included procrastination, poor prioritization, and a preference for rest. For instance, one participant (P1) shared, *"I often procrastinate; I just want to rest and end up falling asleep."*

External distractions, such as social media, were highlighted by two participants as major obstacles. One student (P8) stated, *"I frequently delay tasks because I'm scrolling Instagram."* Additionally, a few participants reported **external workload pressures**, citing academic and organizational demands as significant challenges.

To address these issues, most participants employed **time management strategies**, including creating schedules, prioritizing tasks, and breaking assignments into smaller steps. As one participant (P3) explained, *"I manage my time by setting clear plans and finishing tasks in stages."* Other unique strategies, such as media fasting, were noted but applied inconsistently.

These findings highlight the critical barriers students face in managing their time effectively. They emphasize the importance of structured interventions like CBL and the Student Logbook to foster self-regulated learning and improve time management.

2. Intervention Activities

The intervention integrates case-based learning (CBL) and a weekly student logbook. Participants engage in solving real-world accounting cases, fostering analytical thinking and collaborative problem-solving skills throughout the six-week CBL program.

The weekly student logbook is a structured tool designed to enhance reflective learning and self-regulation during the six-week CBL program. It incorporates elements of the KWL framework (Know, Want to know, Learned) and the SMART goal-setting method (Specific, Measurable, Achievable, Relevant, Time-bound). This design encouraged focused, measurable progress and provided participants with a clear framework for setting, tracking, and reflecting on their learning objectives.

Figure 1 illustrates the structure of the student logbook, detailing its sections, including weekly schedules, initial knowledge and skills, SMART goals, main activities, reflections, and supervisor

feedback. The integration of these components supported participants in aligning their academic activities with clear, actionable targets, fostering greater self-regulation and accountability.

Student Logbook

Week/ Date	Initial Knowledge/ Skills (Know)	SMART		Reflection on Knowledge/Skills Learned (Learned)	Supervisor's Signature
		Knowledge/Skills to Be Achieved Spesific Measurable (Want to know)	Main Activities and Weekly Deadlines Achievable Relevant Time-bound		

Figure 1. Student Logbook Structure

Initial Knowledge/Skills (Know)

This column allows students to record their existing knowledge, skills, or understanding at the start of each week. By identifying what they already know, students can better connect their current competencies with the goals they aim to achieve. This step fosters metacognition by helping students reflect on their starting point and recognize gaps in their knowledge.

Knowledge/Skills to Be Achieved (SMART - Specific, Measurable)

Students articulate what they want to learn or achieve during the week. These goals should be **specific**, with clearly defined objectives, such as mastering a particular concept or skill. They should also be **measurable**, including criteria for success, such as completing a task or demonstrating an understanding of a topic at a particular depth. By combining these elements, students set purposeful and attainable objectives that align with the weekly learning outcomes.

Main Activities and Weekly Deadlines (SMART - Achievable, Relevant, Time-bound)

In this section, students outline the primary activities they plan to undertake to achieve their stated goals, along with specific deadlines. The activities should be achievable, meaning they must be realistic given the time and resources available. They should also be relevant, aligning with the overall course objectives and personal development goals. Additionally, the activities need to be time-bound, with clear deadlines to ensure tasks are completed within a specific timeframe, thereby promoting effective time management and accountability. Examples of such activities might include reviewing case materials, participating in group discussions, or drafting sections of a project.

Reflection on Knowledge/Skills Learned (Learned)

This column serves as a space for students to reflect on their learning experiences at the end of each week. Students document the new knowledge or skills they have acquired and evaluate how effectively their planned activities contributed to achieving their goals. This reflective process enables students to identify their strengths and areas for improvement, fostering continuous learning and enhancing self-awareness.

3. Questionnaire Analysis

The graphs below illustrate the results of a self-regulation questionnaire aimed at measuring students' ability to manage tasks effectively and meet deadlines. The data categorized into two primary indicators - "Planning and Organizing Work" and "Consistency in Meeting Deadlines" - as well as individual statement scores within these indicators.

Indicator-Level Insights

The average score for "Planning and Organizing Work" was 3.33, indicating moderate effectiveness in structuring and organizing tasks. The "Consistency in Meeting Deadlines" indicator received a higher average score of 3.67, reflecting stronger self-discipline in adhering to schedules and completing tasks on time. **Figure 2** displays the average scores for these indicators, highlighting the gap between planning effectiveness and deadline adherence. The results suggest that while participants show commendable consistency in meeting deadlines, further improvement in planning and organizational skills may enhance their overall self-regulation capabilities.

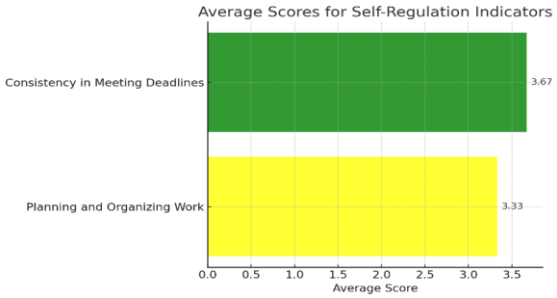

Figure 2. Self Regulation Indicators Average Score

Statement-Level Insights

The highest-scoring statement, "I consistently complete tasks according to deadlines," achieved an average score of 3.93, suggesting that most students excel in task consistency. Conversely, the statement "I find it difficult to organize tasks, resulting in incomplete work" scored the lowest at 3.20, highlighting that task organization remains a significant challenge for many participants. Statements related to planning, such as "I create a detailed work plan before starting tasks" (3.33), and adhering to schedules, such as "I adhere to the schedule I created to complete tasks" (3.47), demonstrate moderate but positive trends. Procrastination, as represented by the statement "I procrastinate, making it difficult to meet deadlines," scored 3.40, indicating that while procrastination is present, it is not overwhelmingly detrimental. **Figure 3** illustrates these findings, highlighting the variations across statements and emphasizing the strengths in task consistency alongside persistent challenges in task organization and planning.

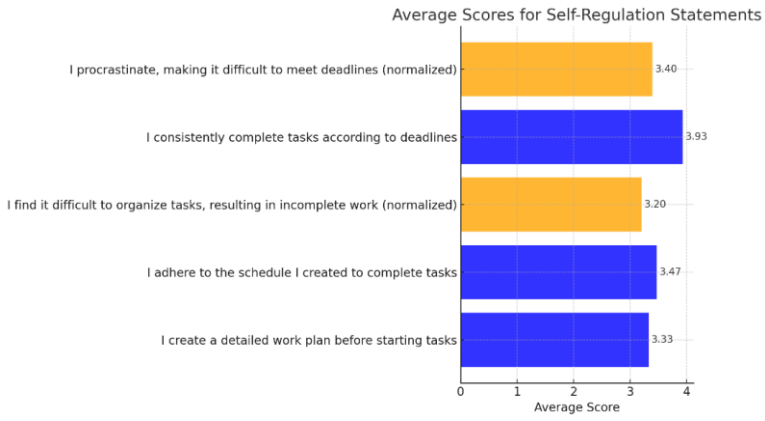

Figure 3. Self Regulation Statements Average Score

Insights and Implications

Students exhibit a relatively high level of consistency in meeting deadlines, indicating that they have developed strategies to manage their time effectively for task completion. However, the lower

scores on planning and organizing tasks highlight a need for targeted interventions to improve these skills. For instance, structured guidance on creating actionable work plans or tools to support task prioritization could be beneficial. Procrastination remains a moderate concern, suggesting that interventions addressing time management and self-discipline could further enhance students' self-regulation.

4. Final Focus Group Discussion

The thematic analysis of FGD Final revealed significant improvements in students' self-regulated learning behaviors post-intervention. The dominant theme was **improved time management**, reported by most participants. Several students indicated that they had adopted structured approaches, such as creating detailed schedules and prioritizing tasks. For example, one participant (P1) stated, *"I now organize tasks by priority and allocate specific times for each activity."* Similarly, another participant (P8) noted, *"The step-by-step process introduced through the logbook has helped me manage my time better."*

The theme of **effective strategies** emerged strongly, with participants highlighting techniques such as breaking tasks into smaller parts, using weekly planners, and setting earlier deadlines for themselves. One student (P12) explained, *"I make my own targets earlier than the deadlines to ensure I don't fall behind."* The introduction of digital tools, such as reminder apps, was also noted as a practical enhancement.

However, **remaining challenges** were identified by a few participants, including difficulty maintaining consistency and external distractions. One student (P4) shared, *"I still struggle to focus at times, especially when distractions like social media are present."*

Overall, the findings suggest that the CBL and Student Logbook intervention significantly improved students' time management and self-regulated learning. Nonetheless, ongoing support may be needed to address persistent barriers such as distractions and inconsistency.

DISCUSSION

The results demonstrate the positive impact of integrating Case-Based Learning and weekly logbooks on self-regulation among pre-service teachers. Several key findings are discussed below:

Effectiveness of the Logbook

The structured use of logbooks has been shown to support participants in planning and prioritizing tasks, resulting in improvements in self-regulation and task management. This finding aligns with research indicating that structured goal-setting tools can enhance these skills. For instance, Alpert and Brown (2024) introduced the GoaLearn App, a goal-setting and monitoring application designed to facilitate self-regulated learning. The app provides personalized metrics for evaluating goal-setting and strategic planning within specific timeframes, enabling users to effectively create, manage, and organize their goals and tasks. Such tools demonstrate the potential of structured interventions to foster self-regulatory capabilities and enhance task management.

CBL's Role in Enhancing Self-Regulation:

The real-world problem-solving approach inherent in Case-Based Learning (CBL) fosters active engagement and accountability, which are essential components of self-regulation. Participants in such learning environments often exhibit improved consistency in task completion, as evidenced by enhanced questionnaire results. For instance, a study by Kim et al. (2023) demonstrated that students engaged in CBL showed significant improvements in self-regulated learning behaviors, leading to higher academic performance. Similarly, research by Nückles et al. (2020) found that incorporating real-world cases in teaching strategies enhanced students' motivation and self-

regulation, resulting in better learning outcomes.

Challenges in Task Organization:

Despite the overall improvements, participants reported moderate difficulties in organizing tasks. This finding aligns with prior research highlighting the challenges individuals face in task organization, even when self-regulation strategies are employed. For instance, Schwenk et al. (2014) emphasized the importance of dual-task training, including task prioritization and organizational strategies, to enhance performance under complex conditions. The study suggested that such training significantly improves individuals' ability to manage multiple tasks effectively. Future interventions could incorporate additional training focused on task prioritization and organizational strategies to address these challenges, ultimately enhancing participants' performance and task management capabilities.

Implications for Teacher Education:

The study highlights the importance of incorporating reflective tools and active learning strategies into teacher education programs. These approaches not only enhance self-regulation but also prepare pre-service teachers for the complexities of professional practice. For instance, Kramarski and Kohen (2017) found that using specific prompts during reflective practice significantly improved pre-service teachers' self-regulation skills, enabling them to manage both their learning and teaching processes effectively. Similarly, Fernández Ortube et al. (2024) conducted a systematic review demonstrating that self-regulated learning interventions positively impact pre-service teachers' ability to plan, monitor, and evaluate their instructional strategies, thereby enhancing their readiness for professional challenges. These findings emphasize the necessity of integrating reflective practices and active learning methodologies in teacher training curricula to foster self-regulation and professional competence.

CONCLUSION

Based on the research results, the integration of Case-Based Learning (CBL) and the use of a weekly logbook within teacher education programs can simultaneously enhance self-regulation and academic performance. CBL fosters active engagement, critical thinking, and problem-solving by immersing pre-service teachers in real-world scenarios, which strengthens self-regulatory behaviors such as planning, monitoring, and reflection. At the same time, structured logbooks provide a consistent platform for reflective practice, goal setting, and progress tracking, further supporting the development of self-regulation skills. To maximize the effectiveness of these approaches, teacher education programs should integrate CBL activities that reflect real-world teaching scenarios and guided logbook prompts encouraging reflection and self-assessment. Initial workshops or training on CBL and logbook use could enhance their adoption and impact. Future research should explore the long-term effects of these strategies during internships and early teaching careers, examine variations in logbook formats (e.g., digital vs. paper-based), and investigate how individual differences such as motivation influence their effectiveness. By combining these innovative methods, teacher education programs can better prepare pre-service teachers for professional challenges while improving academic outcomes

REFERENCES

Alpert, S., & Brown, T. (2024). GoaLearn App: A goal-setting and monitoring application to support self-regulated learning. In *Lecture Notes in Computer Science* (Vol. 13942, pp. 456–467). Springer. https://doi.org/10.1007/978-3-031-72312-4_38

Deng, L., Zhou, Y., & Broadbent, J. (2024). Distraction, multitasking and self-regulation inside university classroom. *Education and Information Technologies*, *29*(18), 23957–23979. https://doi.org/10.1007/s10639-024-12786-w

Endedijk, M. D., Brekelmans, M., Sleegers, P., & Vermunt, J. D. (2016). Measuring students' self-

regulated learning in professional education: Bridging the gap between event and aptitude measurements. *Quality & Quantity*, *50*(5), 2141–2164. https://doi.org/10.1007/s11135-015-0255-4

Fedewa, A. L., & Toland, M. D. (2022). A quantitative review of the effects of self-regulation interventions on student achievement. *Metacognition and Learning*, 17, 425–454. https://doi.org/10.1007/s11409-022-09311-0

Fernández Ortube, A., Panadero, E., & Dignath, C. (2024). Self-regulated learning interventions for pre-service teachers: A systematic review. *Educational Psychology Review*, 36, Article 113. https://doi.org/10.1007/s10648-024-09919-5

Jud, J., Karlen, Y., & Hirt, C. N. (2024). Linking teachers' and students' motivation for self-regulated learning: Is there a signal and how is it transmitted? *Metacognition and Learning*, *19*(3), 939–965. https://doi.org/10.1007/s11409-024-09393-y

Kara, M., Kukul, V., & Çakır, R. (2021). Self-regulation in three types of online interaction: How does it predict online pre-service teachers' perceived learning and satisfaction? *The Asia-Pacific Education Researcher*, *30*(1), 1–10. https://doi.org/10.1007/s40299-020-00509-x

Karaman, P. (2024). Effects of using rubrics in self-assessment with instructor feedback on pre-service teachers' academic performance, self-regulated learning, and perceptions of self-assessment. *European Journal of Psychology of Education*, 39, 2551–2574. https://doi.org/10.1007/s10212-024-00867-w

Karlen, Y., Bäuerlein, K., & Brunner, S. (2024). Teachers' assessment of self-regulated learning: Linking professional competences, assessment practices, and judgment accuracy. *Social Psychology of Education*, *27*(2), 461–491. https://doi.org/10.1007/s11218-023-09845-4

Kim, Y., Zepeda, C. D., & Butler, A. C. (2023). An interdisciplinary review of self-regulation of learning: Bridging cognitive and educational psychology perspectives. *Educational Psychology Review*, 35, Article 92. https://doi.org/10.1007/s10648-023-09800-x

Kramarski, B., & Kohen, Z. (2017). Promoting preservice teachers' dual self-regulation roles as learners and as teachers: Effects of generic vs. specific prompts. *Metacognition and Learning*, 12, 157–191. https://doi.org/10.1007/s11409-016-9164-8

Nückles, M., Roelle, J., Glogger-Frey, I., Waldeyer, J., & Renkl, A. (2020). The self-regulation-view in writing-to-learn: Using journal writing to optimize cognitive load in self-regulated learning. *Educational Psychology Review*, 32, 1089–1126. https://doi.org/10.1007/s10648-020-09541-1

Panadero, E., Jonsson, A., Pinedo, L., & Fernández-Castilla, B. (2023). Effects of rubrics on academic performance, self-regulated learning, and self-efficacy: A meta-analytic review. *Educational Psychology Review*, 35, Article 113. https://doi.org/10.1007/s10648-023-09823-4

Raza, S. A., Qazi, W., & Umer, B. (2019). Examining the impact of case-based learning on student engagement, learning motivation and learning performance among university students. *Journal of Applied Research in Higher Education*, *12*(3), 517–533. https://doi.org/10.1108/JARHE-05-2019-0105

Sánchez-Fernández, M., & Borda-Mas, M. (2023). Problematic smartphone use and specific problematic Internet uses among university students and associated predictive factors: A systematic review. *Education and Information Technologies*, *28*(6), 7111–7204. https://doi.org/10.1007/s10639-022-11437-2

Schwenk, M., Zieschang, T., Oster, P., & Hauer, K. (2014). Dual-task training for balance and gait: A systematic review and meta-analysis. *Ageing Research Reviews*, 15, 1–14. https://doi.org/10.1016/j.arr.2013.12.001

Strauß, S., Tunnigkeit, I., Eberle, J., Avdullahu, A., & Rummel, N. (2024). Comparing the effects of a collaboration script and collaborative reflection on promoting knowledge about good collaboration and effective interaction. *International Journal of Computer-Supported Collaborative Learning*. https://doi.org/10.1007/s11412-024-09430-7

Tsekhmister, Y. (2023). Effectiveness of case-based learning in medical and pharmacy education: A meta-analysis. *Electronic Journal of General Medicine*, *20*(5), em515. https://doi.org/10.29333/ejgm/13315

Villatoro Moral, S., & de Benito, B. (2021). An approach to co-design and self-regulated learning in

technological environments: Systematic review. *Journal of New Approaches in Educational Research*, 10, 234–250. https://doi.org/10.7821/naer.2021.7.646

Vosniadou, S., Darmawan, I., Lawson, M. J., Van Deur, P., Jeffries, D., & Wyra, M. (2021). Beliefs about the self-regulation of learning predict cognitive and metacognitive strategies and academic performance in pre-service teachers. *Metacognition and Learning*, 16, 523–554. https://doi.org/10.1007/s11409-020-09258-0

Wibisono, D. (2014). *Active Learning With Case Method* (Edisi 1). Yogyakarta: Andi.

Wolters, C. A., & Brady, A. C. (2021). College students' time management: A self-regulated learning perspective. *Educational Psychology Review*, *33*(4), 1319–1351. https://doi.org/10.1007/s10648-020-09519-z

Xu, T., Gao, Q., Ge, X., & Lu, J. (2024). The relationship between social media and professional learning from the perspective of pre-service teachers: A survey. *Education and Information Technologies*, *29*(2), 2067–2092. https://doi.org/10.1007/s10639-023-11861-y