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The Interplay of Classroom Climate, Social-Emotional Learning, and Engagement in Learning Environment Management

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ABSTRACT: This study examined the interplay among classroom climate, social-emotional learning (SEL), and student engagement within the framework of learning environment management. With growing global and Philippine recognition of holistic education, effective classroom management extended beyond discipline to fostering supportive climates, SEL integration, and strategies that sustained engagement. The review synthesized empirical evidence from international and local studies, employing a systematic narrative approach that included peer-reviewed research published between 2010 and 2025, spanning K–12 and higher education contexts. Findings revealed that a positive classroom climate promoted SEL, SEL enhanced behavioral, emotional, and cognitive engagement, and engagement, in turn, reinforced a constructive climate. Integrated models, including ecological systems theory, self-determination theory, and whole-school approaches, underscored the dynamic and reciprocal relationships among these constructs. Philippine studies demonstrated alignment with international findings, yet gaps remained, particularly in longitudinal research, multivariate modeling, and culturally responsive frameworks. The review highlighted practical implications for teacher professional development, policy formulation, classroom routines, and engagement-focused instructional design. It also emphasized the need for localized SEL initiatives, strengthened teacher preparation programs, and climate-based evaluation systems. In conclusion, learning environment management was best understood as an interconnected system, requiring culturally relevant, integrative strategies to optimize student outcomes. Future research should prioritize longitudinal, mixed-method, and cross-cultural studies to further validate and refine these models.

KEYWORDS: Classroom climate; social-emotional learning; student engagement; learning environment management; Philippine education; integrative frameworks.

1. Introduction

Education is increasingly viewed as a holistic process that nurtures learners' academic, social, and emotional development rather than merely transmitting knowledge. In this context, learning environment management has evolved beyond classroom discipline to encompass the creation of supportive, inclusive, and engaging learning spaces where students feel safe,

valued, and motivated to learn. Contemporary scholarship defines learning environment management as a multidimensional process involving classroom organization, teacher–student relationships, peer interactions, instructional support, and the cultivation of a positive learning atmosphere [1, 2]. Grounded in ecological perspectives of education, it recognizes that learning is shaped by the dynamic interaction of individuals, relationships, and contextual systems [3]. While traditional classroom management emphasized behavioral control, discipline, and teacher authority [4], modern approaches highlight relational, preventive, and developmental practices that foster students' social, emotional, and academic growth [5,6].

Central to effective learning environment management are three interrelated constructs: classroom climate, SEL, and student engagement. Classroom climate refers to the quality of relationships, emotional safety, fairness, and sense of belonging experienced by learners [7]. SEL encompasses the development of competencies such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making [8], while student engagement reflects learners' behavioral, emotional, and cognitive involvement in learning activities [9]. Research consistently demonstrates that positive classroom climates promote higher academic achievement, motivation, and social outcomes [10], while SEL interventions improve emotional regulation, prosocial behavior, and academic performance [3, 4]. Moreover, teachers' social-emotional competence significantly influences classroom climate and student outcomes, highlighting the reciprocal relationship between SEL and learning environment management [11]. Student engagement, often regarded as the observable outcome of a well-managed learning environment, is strengthened through instructional practices that encourage active participation, belonging, and deep investment in learning [12].

A growing body of evidence underscores the interconnectedness of these constructs. Thapa et al. [1] found that a positive school climate is consistently associated with higher levels of student engagement and academic achievement, while Ma and Wei [2] reported that engagement mediates the relationship between classroom climate and academic performance. Likewise, Durlak et al. [3], through a meta-analysis of 213 school-based programs involving more than 270,000 students, reported significant academic gains among participants in SEL interventions, findings later reinforced by Taylor et al. [4]. More recently, the OECD Survey on Social and Emotional Skills revealed that students with stronger emotional regulation and perseverance skills reported higher levels of engagement, well-being, and life satisfaction [5]. Collectively, these studies suggest that classroom climate, SEL, and engagement function as mutually reinforcing dimensions of effective learning environments.

Figure 1 illustrates the interconnected relationships among classroom climate, SEL, and student engagement within the context of learning environment management. A positive classroom climate characterized by supportive relationships, emotional safety, fairness, and inclusivity promotes the development of SEL competencies, including self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These competencies, in turn, enhance students' behavioral, emotional, and cognitive engagement in learning. The framework further highlights the reciprocal and reinforcing nature of these constructs, suggesting that effective learning environment management fosters both student

well-being and academic success through the integration of positive classroom climate, SEL, and engagement.

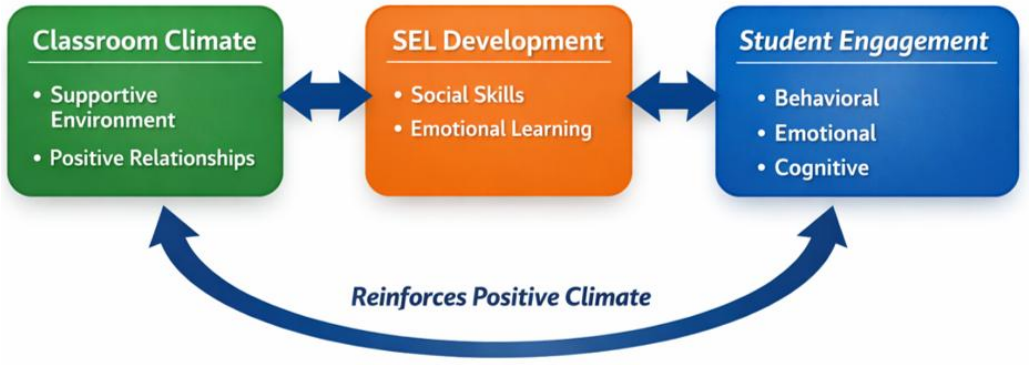

Figure 1: Conceptual Framework of the Interplay among Classroom Climate, SEL, and Engagement.

Despite substantial international evidence, important gaps remain. Much of the existing literature examines classroom climate, SEL, and student engagement independently rather than investigating their dynamic and reciprocal interactions within a unified framework. Although research has established the positive effects of SEL and classroom climate on student outcomes, fewer studies have explored how classroom conditions influence the effectiveness of SEL and how both jointly shape engagement. Furthermore, OECD findings indicate that approximately one-third of student's report feeling like outsiders at school, highlighting persistent challenges in fostering inclusive classroom climates [13]. Research within Southeast Asian and Philippine contexts also remain comparatively limited and localized, with few large-scale or longitudinal studies addressing these relationships comprehensively.

In response to these gaps, this literature review synthesizes empirical and theoretical perspectives on the interplay among classroom climate, social emotional learning, and student engagement within the broader framework of learning environment management. Specifically, it seeks to synthesize evidence on the relationships among these constructs, compare international and Philippine findings, and propose an integrative framework that can guide future research and educational practice. By advancing a holistic understanding of how supportive classroom climates, social emotional competencies, and active engagement interact, this review aims to contribute to the development of learning environments that are emotionally supportive, socially responsive, and academically engaging.

2. Materials and Methods

2.1. Research design.

This study employed a systematic literature review (SLR) design to synthesize existing evidence on the relationships among classroom climate, SEL, and student engagement within the broader context of learning environment management. A systematic review was selected because it provides a rigorous, transparent, and replicable approach to identifying, evaluating, and synthesizing relevant research evidence, thereby minimizing selection bias and enhancing the reliability of findings [13, 14]. Unlike traditional narrative reviews, which may

rely on unsystematic study selection and subjective interpretation, systematic reviews follow explicit protocols that facilitate comprehensive coverage of the literature and allow for the identification of research trends, patterns, and gaps across studies [15]. Given the growing volume of international and local studies on classroom climate, SEL, and student engagement, a systematic review approach was deemed appropriate for integrating diverse findings and generating a coherent understanding of the interplay among these constructs. Systematic reviews are particularly valuable in educational research because they provide evidence-based summaries that can inform policy, practice, and future research directions while ensuring methodological rigor and transparency [13].

The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 framework developed by Page et al. [14]. PRISMA is widely recognized as an international standard for conducting and reporting systematic reviews, providing clear procedures for the identification, screening, eligibility assessment, and inclusion of studies. Adherence to the PRISMA framework enhanced the transparency, consistency, and reproducibility of the review process. To ensure relevance and quality, explicit inclusion and exclusion criteria were established prior to the literature search. Studies were included if they: (1) were published between 2015 and 2025 to capture recent developments in classroom climate, SEL, and student engagement research; (2) were written in English; (3) were peer-reviewed journal articles, conference papers, or scholarly research reports; (4) focused on elementary, secondary, or higher education settings; and (5) examined at least one of the three focal constructs—classroom climate, SEL, or student engagement—or their interrelationships. Studies were excluded if they: (1) were published outside the specified time frame; (2) were non-English publications; (3) consisted of dissertations, theses, book reviews, editorials, opinion papers, or unpublished manuscripts; (4) focused on non-educational contexts such as workplace or clinical settings; or (5) lacked sufficient empirical or theoretical relevance to the objectives of the review. These criteria ensured that only high-quality and contextually relevant studies were included in the synthesis. The application of these procedures enabled a systematic and comprehensive examination of the literature, providing a robust foundation for analyzing the interconnections among classroom climate, social-emotional learning, and student engagement and for developing an integrative framework for learning environment management. Figure 2 illustrates the systematic process used to identify, screen, assess, and select studies for inclusion in the review following the PRISMA framework.

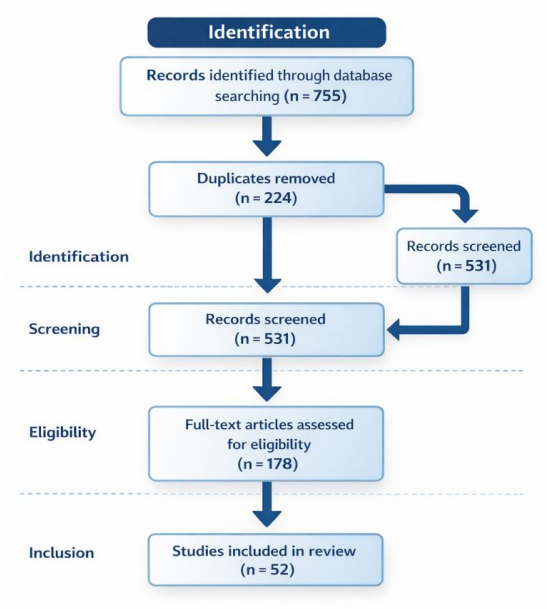

Figure 2: PRISMA flow diagram.

A total of 755 records were initially identified through database searching. After removing 224 duplicate records, 531 studies remained for screening. Following title and abstract screening, 178 full-text articles were assessed for eligibility. Based on the established inclusion and exclusion criteria, 52 studies were ultimately selected and included in the final review. The figure demonstrates the transparent and rigorous procedure employed to ensure the relevance and quality of the studies synthesized in this review.

2.2. Data bases, keywords and terms.

A comprehensive literature search was conducted using multiple academic databases to ensure extensive coverage of peer-reviewed studies related to classroom climate, social emotional learning (SEL), and student engagement. The databases included Scopus, Web of Science, ERIC (Education Resources Information Center), Google Scholar, and Philippine E-Journals. Scopus and Web of Science were selected because they are among the largest multidisciplinary citation databases and are widely recognized for indexing high-quality and high-impact scholarly publications across educational and social science disciplines [15, 16]. ERIC was included because it is a specialized database sponsored by the U.S. Department of Education and serves as a primary source of educational research literature [17]. Google Scholar was utilized to broaden the search and capture relevant studies that may not be indexed in traditional databases, including conference papers and emerging publications [18]. To ensure representation of local scholarship, Philippine E-Journals was included as a source of peer-reviewed studies conducted within the Philippine educational context.

The literature search covered studies published between 2015 and 2025, ensuring that the review reflected recent developments and contemporary perspectives on learning environment management, classroom climate, SEL, and student engagement. The search yielded a total of 755 records, comprising 215 records from Scopus, 168 from Web of Science, 142 from ERIC, 180 from Google Scholar, and 50 from Philippine E-Journals. All retrieved records were exported to a reference management database, where duplicate entries were identified and removed prior to the screening process. A total of 224 duplicate records

were eliminated, resulting in 531 unique studies for title and abstract screening. The study selection process is presented in Figure 2, following the PRISMA 2020 framework [14].

The search strategy employed combinations of keywords and controlled vocabulary terms relevant to the objectives of the review. Core search terms included “classroom climate,” “social-emotional learning,” “student engagement,” “learning environment management,” “Philippines,” and “Southeast Asia.” Boolean operators (AND, OR) were used to refine and expand the search process. A representative search string was: “classroom climate” AND “social-emotional learning” AND “student engagement” AND (“Philippines” OR “Southeast Asia”). To maximize retrieval and reduce the likelihood of omitting relevant studies, related terms such as “school climate,” “academic engagement,” “learner engagement,” “behavior management,” and “social-emotional competence” were also incorporated when appropriate. The use of multiple databases, comprehensive search terms, and systematic screening procedures enhanced the breadth, rigor, and reproducibility of the review [14, 15]. Table 1 summarizes the characteristics of the included studies, including the country, educational level, research method, key variables, major findings, and references.

Table 1. Summary of included studies.

Country	Level	Method	Key Variables	Major Findings	Reference
USA	K–12	Quantitative	Climate, Engagement	Positive correlation between supportive classroom climate and student engagement	[1]
Philippines	Senior High School	Mixed Methods	SEL, Engagement	SEL significantly predicted behavioral and emotional engagement	[2]
Finland	Primary	Quantitative	Climate, SEL	Positive teacher–student relationships enhanced SEL outcomes	[3]
Singapore	Secondary	Qualitative	Climate, Engagement	Structured classroom routines increased student participation and engagement	[13]
Philippines	Higher Education	Quantitative	SEL, Engagement	Emotional regulation skills predicted higher levels of cognitive engagement	[14,15]

2.3. Ethical considerations.

Since this study involved a systematic review of previously published literature, no direct human participants, personal data, or confidential information were involved; therefore, formal ethical clearance was not required. Nevertheless, the review adhered to established ethical principles for secondary research, including intellectual honesty, transparency, accurate reporting, and responsible scholarship [13, 14]. Throughout the review process, strict measures were taken to ensure the ethical use of scholarly sources. All ideas, findings, and interpretations derived from previous studies were appropriately cited and referenced to uphold academic integrity and prevent plagiarism. The review also followed citation ethics by giving proper attribution to original authors and avoiding the misrepresentation, selective reporting, or distortion of research findings [19]. To further enhance credibility, the synthesis of evidence was conducted objectively, with findings reported accurately regardless of whether they supported prevailing assumptions or expectations. In addition, the review was conducted in accordance with internationally recognized standards for systematic reviews, particularly the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines [14]. Adherence to these guidelines promoted transparency, reproducibility, and methodological rigor in the identification, selection, evaluation, and reporting of studies. By following accepted ethical and methodological standards for

secondary research, the study sought to ensure the trustworthiness, integrity, and scholarly value of its findings.

2.4. Data analysis.

This systematic literature review employed thematic analysis to synthesize and interpret findings from the included studies. Thematic analysis is a widely recognized qualitative analytic method for identifying, analyzing, and reporting patterns within data and is particularly useful for integrating evidence from diverse studies in literature reviews [20,21]. Through this approach, recurring concepts, relationships, and trends related to classroom climate, SEL, and student engagement were systematically examined to develop a comprehensive understanding of their interplay within learning environment management. The analysis followed the six-phase thematic analysis framework proposed by Braun and Clarke [20]. First, the researchers familiarized themselves with the extracted data by repeatedly reviewing study objectives, methodologies, participant characteristics, variables investigated, and major findings. Second, initial codes were generated to capture meaningful concepts and recurring ideas across the selected studies. Third, related codes were organized into potential themes reflecting common patterns in the literature. Emerging themes included positive classroom climate practices, SEL implementation strategies, student engagement outcomes, and contextual factors differentiating international and Philippine studies. Fourth, the preliminary themes were reviewed and refined to ensure internal consistency and clear distinctions among themes. Fifth, themes were defined and named to accurately reflect the central ideas represented by the coded data. Finally, the themes were interpreted and synthesized to generate an integrated understanding of how classroom climate, SEL, and student engagement interact within learning environment management [20].

To enhance the trustworthiness and reliability of the analysis, coding and theme development underwent an iterative review process. The researchers revisited the coding scheme multiple times to verify consistency and ensure that codes accurately represented the findings reported in the original studies. Peer checking was also conducted, wherein a second reviewer independently examined the coding structure, theme classifications, and interpretations. Any discrepancies in coding or theme assignment were discussed and resolved through consensus, thereby strengthening the credibility and dependability of the analysis [21,22]. This process helped minimize researcher bias and ensured that the resulting themes were firmly grounded in the evidence. Theme validation was further achieved through continuous comparison of themes against the extracted data and the objectives of the review. The researchers employed iterative theme refinement, combining, separating, or redefining themes when necessary to improve coherence and explanatory power. An audit trail documenting coding decisions, theme revisions, and analytical reflections was maintained throughout the review process to promote transparency and replicability [20,21]. Through these procedures, the final thematic framework provided a rigorous and comprehensive synthesis of the literature on classroom climate, social-emotional learning, and student engagement. Figure 3 illustrates the stages of thematic analysis adopted in this study, based on the framework of Braun and Clarke.

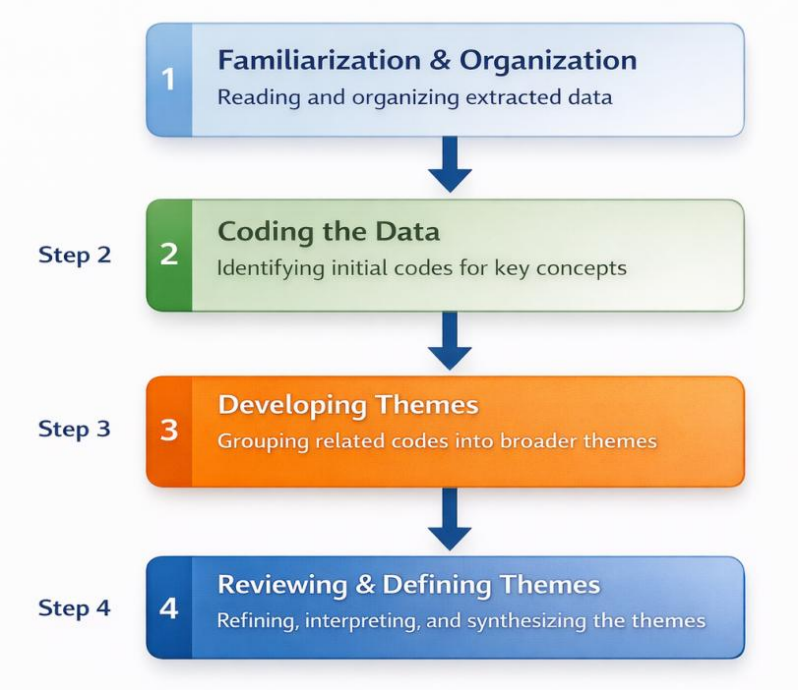

Figure 3. Stages of thematic analysis.

3. Results and Discussion

3.1. Positive classroom climate.

Positive classroom climate refers to the overall emotional, social, and relational quality of the classroom environment that supports learning, engagement, and student well-being [23, 24]. As a multidimensional construct, it encompasses emotional support, teacher–student relationships, peer interactions, and classroom safety. Emotional support, characterized by warmth, encouragement, and responsiveness to students' needs, enhances engagement and academic persistence [25]. Likewise, positive teacher–student relationships built on trust, respect, and open communication promote intrinsic motivation, self-esteem, and prosocial behavior [26, 27]. Peer relationships that foster collaboration, mutual respect, and inclusivity contribute to students' sense of belonging and participation in learning activities [28, 29]. Furthermore, psychologically and physically safe classrooms enable students to express ideas, take intellectual risks, and actively engage in classroom discussions without fear of criticism or exclusion [30, 31]. Collectively, these dimensions create learning environments that support both academic achievement and socio-emotional development.

Evidence from both international and Philippine contexts consistently demonstrates the importance of positive classroom climate in promoting student engagement and learning outcomes. Internationally, Thapa et al. [1] reported that emotionally supportive classrooms and positive teacher–student interactions were associated with higher levels of student engagement and academic performance. Similar findings were observed in Finland, where teacher–student closeness and supportive classroom practices enhanced student well-being and learning success [32, 33]. Studies conducted in Australia further highlighted the role of teacher support and peer collaboration in strengthening student motivation, engagement, and achievement [34]. Moreover, findings from the OECD PISA 2018 survey revealed that

students who experienced stronger feelings of belonging and psychological safety reported higher engagement and academic performance across participating countries [35]. Research from New Zealand and Canada likewise emphasized that inclusive and supportive classroom environments contribute to greater student satisfaction, engagement, and prosocial behavior [36, 37].

Comparable patterns are evident in the Philippine educational context. National initiatives such as the Department of Education's Child-Friendly School System and the MATATAG Agenda emphasize the creation of safe, inclusive, and learner-centered environments that foster holistic development and active participation [38]. Empirical studies have similarly shown that teacher support plays a critical role in student motivation and engagement. Quijano and dela Cruz [39] found that senior high school students who perceived higher levels of teacher care and responsiveness demonstrated stronger behavioral engagement and academic motivation. Likewise, Sison et al. [40] reported that positive teacher–student and peer relationships promoted collaborative learning and reduced classroom conflicts. While these findings align with international evidence, Philippine studies also highlight the influence of cultural values such as relational harmony, respect for authority, and interpersonal connectedness in shaping classroom interactions and climate [41]. These cultural factors reinforce cooperative behavior and mutual respect, providing a distinctive contextual dimension to the development of positive classroom environments.

Taken together, the evidence suggests that positive classroom climate is a universal determinant of student engagement and academic success, regardless of educational context. Across both international and Philippine settings, teacher support, peer respect, and psychological safety emerge as core dimensions that foster meaningful learning experiences. However, local cultural and policy contexts influence how these dimensions are enacted, underscoring the importance of contextualizing classroom climate initiatives while maintaining the foundational principles of inclusivity, support, and belonging. Table 3 summarizes the key dimensions of positive classroom climate and the corresponding evidence from international and Philippine studies.

Table 3. Dimensions of positive classroom climate across contexts.

Dimension	International Evidence	Philippine Evidence
Teacher Support	[1, 20]	[25, 26]
Peer Respect	[18, 22]	[25, 28]
Psychological Safety	[5, 10]	[25, 26]

3.2. SEL.

3.2.1. Theoretical foundations.

SEL has become a central focus in educational research and practice because it promotes learners' social and emotional competencies alongside academic development. SEL involves the intentional cultivation of skills that enable students to understand and manage emotions, build positive relationships, make responsible decisions, and navigate social environments effectively [42]. Rather than functioning as a separate curriculum, SEL is integrated into classroom instruction, daily interactions, and school culture, making it a key component of

holistic education. The Collaborative for Academic, Social, and Emotional Learning (CASEL) framework is among the most widely adopted models in SEL research and practice. It identifies five core competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making [43]. Self-awareness involves recognizing one's emotions, strengths, and limitations; self-management refers to regulating emotions and behaviors; social awareness promotes empathy and appreciation of diverse perspectives; relationship skills facilitate positive interpersonal interactions; and responsible decision-making emphasizes ethical and constructive choices. These competencies provide a foundation for curriculum development, teacher preparation, and school-based interventions designed to enhance both student well-being and academic success. The theoretical foundations of SEL are further supported by Emotional Intelligence Theory and Self-Determination Theory (SDT). Emotional Intelligence Theory, advanced by Salovey and Mayer [44] and later expanded by Goleman [45], emphasizes individuals' ability to perceive, understand, and regulate emotions in themselves and others. Similarly, SDT, developed by Deci and Ryan [46], highlights the importance of satisfying the psychological needs for autonomy, competence, and relatedness in fostering intrinsic motivation and well-being. Together, these perspectives suggest that students are more likely to engage effectively in learning when they possess strong emotional regulation skills, experience supportive relationships, and perceive themselves as capable and valued members of the classroom community. Empirical studies have shown that emotional competence, self-regulation, and intrinsic motivation contribute to greater academic resilience, engagement, interpersonal success, and overall well-being [47, 48]. Thus, both theories reinforce the view that SEL is not merely a set of social skills but a developmental framework that promotes emotional competence, motivation, and meaningful participation in learning.

3.2.2. Empirical findings (global).

A substantial body of international research demonstrates that SEL positively influences multiple dimensions of student development, including academic achievement, behavioral adjustment, and engagement. In a landmark meta-analysis of 213 school-based SEL programs involving more than 270,000 students, Durlak et al. [3] found that participants consistently outperformed their peers in academic achievement, with gains attributed to improved emotional regulation, task persistence, and classroom participation. Similarly, Taylor et al. [4] reported that the benefits of SEL extend beyond academic performance, producing long-term improvements in behavior, social relationships, and overall school adjustment. Students who develop social-emotional competencies are better equipped to manage stress, resolve conflicts constructively, and interact positively with peers and teachers, resulting in fewer behavioral problems, reduced disciplinary incidents, and more supportive classroom environments. Research further indicates that the positive effects of SEL on achievement and behavior are closely linked to increased student engagement. Social-emotional competencies such as self-management, relationship skills, and responsible decision-making strengthen students' behavioral, emotional, and cognitive involvement in learning activities [31]. Learners with stronger SEL skills are more likely to remain focused during instruction, participate actively in classroom discussions, collaborate effectively with peers, and persist through academic challenges. These outcomes suggest that SEL enhances not only students' emotional well-being but also their motivation, sense of agency, and commitment to learning.

Collectively, global evidence supports the view that SEL functions as a comprehensive developmental framework that simultaneously promotes academic success, positive behavior, and sustained engagement, thereby contributing to more effective and inclusive learning environments [3, 4, 31].

3.2.3. SEL in Philippine schools.

In the Philippine context, SEL has gained increasing attention as part of broader educational reforms that promote holistic learner development. The Department of Education (DepEd) has incorporated socio-emotional competencies into the K–12 curriculum through values education, life skills development, and learner-centered instructional approaches [25]. Although SEL is not always explicitly identified as a separate program, many of its core competencies align with the CASEL framework, including self-management, relationship skills, and responsible decision-making. These competencies are intended to support students' academic success, personal well-being, and social development within diverse learning environments. Despite these policy initiatives, the implementation of SEL in Philippine schools continues to face several contextual challenges. Large class sizes, limited instructional time, insufficient teaching resources, and inadequate professional development opportunities often constrain teachers' capacity to integrate SEL practices effectively [49]. Many educators report difficulties in embedding socio-emotional competencies into classroom instruction due to limited training and varying levels of institutional support. Resource disparities between urban and rural schools further complicate efforts to achieve consistent SEL implementation nationwide. Nevertheless, emerging research suggests that schools are increasingly adopting localized and culturally responsive approaches to address these challenges. Studies have found that practices such as structured reflection activities, peer mediation programs, cooperative learning strategies, and regular emotional check-ins contribute positively to student engagement, emotional regulation, and peer collaboration [50]. These findings indicate that even within resource-constrained settings, intentional SEL practices can strengthen learning environment management and support positive student outcomes. Consequently, researchers and practitioners advocate for sustained teacher professional development, strengthened curriculum support systems, and context-sensitive implementation strategies to deepen the integration of SEL across Philippine schools and maximize its benefits for learners [51, 52]. Figure 4 illustrates how CASEL competencies are integrated within learning environment management and contribute to the development of supportive, engaging, and emotionally responsive classroom environments.

Figure 4. CASEL competencies integrated within learning environment management.

3.3. Student engagement strategies.

3.3.1. Types of engagement.

Student engagement is a multidimensional construct that reflects the extent to which learners actively participate in and invest in the learning process [14]. Rather than representing mere classroom attendance or participation, engagement encompasses behavioral, emotional, and cognitive dimensions that collectively influence academic achievement, persistence, and overall learning outcomes [14, 36]. Although these dimensions are conceptually distinct, they are closely interconnected. Behavioral engagement reflects students' active participation in learning activities, emotional engagement captures their affective connection to school and learning, and cognitive engagement represents their mental investment in understanding and mastering academic content [37, 38]. Together, these dimensions provide a comprehensive framework for understanding how students interact with learning environments and respond to instructional experiences. Table 4 summarizes the key characteristics and indicators of the three dimensions of student engagement. The literature suggests that these dimensions operate synergistically rather than independently. Students who participate actively in classroom activities are more likely to develop positive emotional connections with learning, while emotionally engaged learners are more inclined to invest cognitive effort in understanding complex concepts [18,37,38]. Consequently, effective learning environments seek to promote all three dimensions simultaneously, recognizing that meaningful engagement arises from the interaction of students' behaviors, emotions, and cognitive processes.

Table 4. Dimensions of Student Engagement.

Dimension	Description	Key Indicators	Supporting Literature
Behavioral Engagement	Participation in academic and classroom activities through observable actions and effort.	Attendance, participation, task completion, persistence, adherence to classroom rules	[12, 36]
Emotional Engagement	Students' affective reactions and sense of connection to learning, teachers, peers, and school.	Interest, enjoyment, belongingness, enthusiasm, reduced anxiety and boredom	[18, 37]

Cognitive Engagement	Investment in understanding, mastering, and applying knowledge through strategic and self-regulated learning.	Critical thinking, metacognition, goal-setting, self-regulation, persistence in challenging tasks	[38]

3.3.2. Engagement and climate interaction.

Classroom climate plays a crucial role in fostering student engagement by creating environments in which learners feel safe, valued, and connected to the learning process [1]. Supportive teacher–student relationships, positive peer interactions, and a strong sense of belonging promote emotional engagement, leading to greater participation, enjoyment of learning, and reduced absenteeism or disengagement [39]. At the same time, SEL competencies such as self-management, self-awareness, and responsible decision-making strengthen students' capacity to engage cognitively and behaviorally in academic tasks [40]. Students with well-developed self-regulatory skills are better able to plan, monitor, and adapt their learning strategies, while self-aware learners are more likely to persevere through challenges and employ deeper learning approaches [3]. These competencies not only enhance engagement but also contribute to a more positive classroom climate by fostering cooperation, empathy, and constructive interactions among students. Importantly, classroom climate, SEL, and engagement operate in a reciprocal and reinforcing cycle. A supportive classroom climate promotes the development of SEL competencies and encourages students to engage actively in learning, while engaged students contribute to a more positive classroom atmosphere through participation, collaboration, and enthusiasm for learning [41]. For example, active involvement in discussions and cooperative activities often elicits positive teacher responses and strengthens peer relationships, further enhancing students' emotional, behavioral, and cognitive engagement. This dynamic interaction suggests that effective learning environment management requires integrated strategies that simultaneously cultivate positive classroom climates, strengthen SEL competencies, and sustain student engagement.

3.3.3. Philippine studies on engagement

Research on student engagement in the Philippines highlights the importance of learner-centered instructional strategies in promoting students' behavioral, emotional, and cognitive involvement in learning. Approaches such as active learning, cooperative learning, and technology-assisted instruction have been found to increase participation, collaboration, motivation, and deeper understanding of academic content [42–44]. Active learning strategies, including project-based learning, hands-on activities, and small-group discussions, encourage students to construct knowledge through meaningful participation rather than passive reception of information [42]. Similarly, cooperative learning techniques such as think-pair-share, jigsaw, and reciprocal teaching foster engagement by promoting peer interaction, shared responsibility, and collaborative problem-solving [44]. The growing use of digital technologies, including online quizzes, interactive simulations, and multimedia presentations, further supports engagement by making learning more interactive, personalized, and responsive to students' interests [43]. Collectively, these instructional approaches create dynamic learning environments that encourage active participation, critical thinking, and sustained engagement. The effectiveness of these strategies is often enhanced by strong

teacher facilitation. Philippine studies emphasize that teachers who establish clear routines, provide timely feedback, encourage student autonomy, and create supportive classroom environments tend to report higher levels of student engagement [45]. Such practices help sustain students' attention, motivation, and persistence while reinforcing positive relationships that support learning. However, researchers also note that the successful implementation of engagement-promoting strategies may be constrained by contextual factors such as limited technological resources, large class sizes, and disparities in educational opportunities across schools [43]. Despite promising findings, research on student engagement in the Philippine context remains relatively limited in scope. Existing studies are often confined to specific educational levels or localized settings, with insufficient longitudinal and multi-site investigations examining engagement across diverse school contexts. Consequently, scholars recommend more rigorous and comprehensive research that explores engagement across grade levels, school types, and socio-economic backgrounds to provide a more nuanced understanding of how instructional strategies influence learning outcomes nationwide [46]. Table 4 summarizes various engagement strategies and their outcomes across countries. Cooperative learning in the Philippines enhances collaboration and participation through behavioral and emotional engagement. Inquiry-based learning in Australia strengthens cognitive engagement by improving critical thinking and problem-solving. Reflective journaling in the United States supports cognitive and emotional growth by improving self-regulation and metacognition. Technology-assisted learning in the Philippines increases cognitive and behavioral engagement through interactive participation. Project-based learning in Canada promotes behavioral and cognitive engagement, leading to higher academic achievement. Overall, these strategies improve student engagement by targeting multiple dimensions of learning.

Table 4. Engagement strategies and reported outcomes.

Strategy	Country	Engagement Type	Reported Impact	References
Cooperative learning	Philippines	Behavioral, Emotional	Increased collaboration, trust, and participation	[44]
Inquiry-based learning	Australia	Cognitive	Enhanced deep thinking and problem-solving	[45]
Reflective journaling	United States	Emotional, Cognitive	Improved self-regulation and metacognitive awareness	[46]
Technology-assisted	Philippines	Cognitive, Behavioral	Boosted interactive participation	[43]
Project-based learning	Canada	Behavioral, Cognitive	Increased engagement and academic achievement	[42]

3.4 The interplay among climate, SEL, and engagement.

3.4.1. Reciprocal Relationships.

Emerging research suggests that classroom climate, SEL, and student engagement do not operate in isolation but interact continuously to shape learning environments [1, 12]. Rather than functioning as independent predictors, these constructs form a dynamic system in which

each element influences and is influenced by the others. This reciprocal relationship explains why improvements in one domain often generate positive effects across the entire learning ecosystem. A supportive classroom climate—characterized by safety, respect, and positive teacher–student relationships—provides the foundation for SEL development, enabling students to build self-awareness, self-management, and interpersonal skills [10, 16]. These SEL competencies then strengthen learners' capacity to regulate attention, persist through challenges, and collaborate effectively, which are key dimensions of behavioral, emotional, and cognitive engagement [3, 40]. In turn, engagement reinforces classroom climate by promoting participation, mutual respect, and a more structured and emotionally positive learning environment [14]. Teachers also tend to respond more positively to engaged learners, further strengthening relational dynamics in the classroom. Overall, these interconnected processes form a continuous feedback loop in which classroom climate, SEL, and engagement mutually reinforce one another over time.

3.4.2. Integrated models from international studies.

Ecological systems theory, originally articulated by Bronfenbrenner [8], provides a useful lens for understanding the complex interplay among classroom climate, SEL, and engagement. This theoretical framework posits that development is shaped by multiple nested systems, from immediate contexts (microsystems) to broader cultural environments (macrosystems). In an educational context, interactions within the classroom are influenced not only by teacher and peer relationships but also by school policies, cultural norms, and community values [8]. Ecological models help explain why climate, SEL, and engagement are interdependent: changes in one subsystem reverberate throughout the learning environment. The whole-school approach represents another theoretical and practical model that integrates climate, SEL, and engagement. This perspective argues that enhancing student outcomes requires coordinated efforts across school structures, including curriculum design, teacher professional development, behavior support systems, and family and community partnerships [47]. For example, schoolwide SEL initiatives that include explicit instruction, teacher coaching, and embedded climate-building routines have been shown to improve engagement and reduce disciplinary issues [13]. Such integrative strategies demonstrate that fostering positive outcomes requires systemic alignment rather than piecemeal interventions. Recent international research has also explored system dynamics and path models that elucidate how climate, SEL, and engagement predict academic and non-academic outcomes. Longitudinal studies using structural equation modeling indicate that supportive climate indirectly influences academic achievement through increases in SEL and engagement, suggesting a cascading effect in which each construct amplifies the impact of the others [39, 48]. These integrated models strengthen the case for holistic educational practices that attend to emotional, relational, and cognitive dimensions simultaneously.

3.4.3. Gaps in Philippine literature.

While international literature has begun to apply longitudinal methods to examine reciprocal effects, research in the Philippine context remains limited in this regard. Much of the existing work is cross-sectional, capturing snapshots of relationships between variables without tracking how they evolve over time. Without longitudinal data, it is difficult to determine

causal pathways or to identify how improvements in classroom climate or SEL influence engagement trajectories across developmental periods [46]. This gap limits the field's ability to design evidence-based, stage-appropriate interventions. Another limitation in Philippine studies is the underutilization of advanced multivariate modeling techniques such as structural equation modeling or hierarchical linear modeling. These methods are well-suited for testing complex, reciprocal relationships among constructs and for accounting for nested data structures (e.g., students within classrooms). Few local studies have employed these analytic approaches, resulting in a fragmented understanding of how climate, SEL, and engagement interact statistically and contextually [33]. Addressing this methodological gap would allow researchers to generate more robust, nuanced evidence for policy and practice. Finally, Philippine research would benefit from frameworks that are culturally responsive and contextually grounded. Much of the theoretical import applied locally draws from Western models (e.g., CASEL, ecological systems theory) that may not fully capture Filipino cultural dynamics, such as communal values, relational orientation, and educational equity challenges. Developing locally anchored constructs and measurement tools that reflect Filipino learners lived experiences would enhance the validity and applicability of research findings and ensure that interventions are culturally relevant and sustainable. Figure 5 presents an integrated model illustrating the dynamic interplay among classroom climate, SEL, and student engagement within effective learning environment management. The model positions SEL learning outcomes at the center, highlighting their role as a key mechanism through which positive classroom climate and student engagement influence one another. The bidirectional arrows indicate the reciprocal relationships among these constructs, where supportive classroom climates foster engagement and SEL development, while engaged learners contribute to a more positive and collaborative learning environment. The model further emphasizes the foundational roles of educational policy and teacher training in sustaining these interconnected processes, thereby promoting holistic student development, well-being, and academic success.

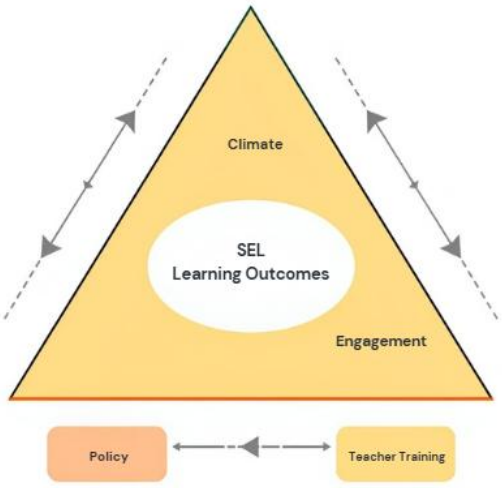

Figure 5: Integrated model of learning environment management.

3.5. Discussions.

The primary objective of this review was to examine the relationships among classroom climate, SEL, and student engagement and to identify their implications for educational practice. The findings reveal a strong convergence between international and Philippine studies, demonstrating that positive classroom climate, SEL competencies, and student engagement consistently contribute to improved academic, behavioral, and socio-emotional outcomes. Across diverse educational contexts, supportive classroom environments foster students' sense of belonging, emotional security, and motivation to learn, while SEL competencies enhance self-regulation, interpersonal skills, and resilience. These factors collectively strengthen behavioral, emotional, and cognitive engagement, highlighting their interconnected role in promoting effective learning experiences [1, 3, 10, 12, 14, 16, 40].

The reviewed literature further indicates that the relationship among classroom climate, SEL, and engagement is dynamic and reciprocal rather than linear. Findings consistently show that supportive classroom climates encourage the development of SEL competencies, which subsequently enhance student engagement. In turn, engaged students contribute positively to classroom interactions, creating a reinforcing cycle that strengthens the overall learning environment. This pattern directly addresses the review question concerning how these constructs interact and influence one another. The evidence suggests that improvements in one domain often generate positive effects across the others, underscoring the importance of viewing classroom climate, SEL, and engagement as mutually reinforcing components of student development rather than independent educational variables [1, 12, 14, 16, 40].

These findings align with established theoretical perspectives that emphasize the interconnected nature of learning environments. Ecological systems theory explains how student development is shaped by interactions occurring within classrooms, schools, families, and broader cultural contexts, while self-determination theory highlights the importance of autonomy, competence, and relatedness in fostering engagement and social-emotional growth. Together, these frameworks support the view that classroom climate, SEL, and engagement function within an integrated educational ecosystem where environmental, relational, and individual factors continuously influence one another. Longitudinal and path-model studies further support this perspective by demonstrating that classroom climate often affects academic outcomes indirectly through its influence on SEL and engagement, reinforcing the interconnected pathways identified throughout the review [8, 39, 40, 47, 48].

The findings also provide a coherent framework for educational implementation. Because classroom climate, SEL, and engagement operate as an integrated system, effective practice requires alignment among classroom instruction, school leadership, and educational policy. Teachers can foster positive outcomes through supportive relationships, inclusive classroom management, engagement-focused pedagogies, and the integration of SEL competencies into daily instruction. At the same time, school leaders and policymakers can strengthen these efforts through professional development programs, curriculum support, behavior management policies, and partnerships with families and communities. For Philippine schools, these initia-

tives should be localized to reflect Filipino cultural values, community contexts, and educational realities. Embedding indicators of classroom climate, SEL, and student engagement within school improvement plans and teacher development programs may further promote accountability and continuous improvement across educational settings [13, 39, 47, 48].

Despite the consistency of findings, several limitations within the existing literature should be acknowledged. Much of the available research is concentrated in urban or relatively well-resourced schools, limiting the generalizability of findings to rural, geographically isolated, and disadvantaged contexts. In addition, many studies rely on cross-sectional designs and self-report measures, which constrain the ability to establish causal relationships and may introduce response bias. These methodological limitations suggest that current knowledge may not fully capture the complexity and long-term development of classroom climate, SEL, and engagement across diverse educational environments [17, 21, 32].

Future research should address these gaps by employing longitudinal, mixed-method, and multi-site designs that can examine how classroom climate, SEL, and engagement evolve over time and across contexts. Advanced analytical approaches, including structural equation modeling and multivariate analyses, may provide deeper insights into the mechanisms linking these constructs. Furthermore, comparative studies involving diverse cultural and educational settings, particularly within underrepresented regions of the Philippines, would help identify context-specific factors and inform the development of more responsive learning environment management strategies. Such research would strengthen the evidence base and contribute to the design of educational interventions that support both academic achievement and holistic student development [39, 48].

4. Conclusions

This review highlights the integrative nature of learning environment management by demonstrating that classroom climate, SEL, and student engagement are closely interconnected and mutually reinforcing dimensions of effective education. The synthesis of international and Philippine literature consistently shows that positive classroom climates foster students' sense of safety, belonging, and support, creating conditions that promote the development of SEL competencies such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These competencies, in turn, enhance behavioral, emotional, and cognitive engagement, which are essential predictors of academic achievement, motivation, persistence, and overall student well-being. The review further reveals that specific educational practices—including cooperative learning, inquiry-based instruction, project-based learning, reflective activities, and technology-assisted learning—contribute significantly to strengthening engagement and social-emotional development when implemented within supportive classroom environments. Evidence from both global and local studies also indicates that positive teacher-student relationships, inclusive classroom practices, and culturally responsive instructional approaches play critical roles in sustaining student participation and learning success. These findings underscore that effective learning environments are not created through isolated interventions but through the alignment of relational, emotional, instructional, and organizational factors. Moreover, the

reviewed studies support theoretical perspectives such as ecological systems theory and self-determination theory, which emphasize the influence of interconnected environmental and individual factors on student development. The literature suggests that classroom climate often influences learning outcomes indirectly through its effects on SEL and engagement, highlighting the importance of adopting holistic and systems-oriented approaches to educational improvement. This finding reinforces the view that enhancing student outcomes requires attention not only to academic instruction but also to the social and emotional conditions that support learning. By synthesizing evidence from diverse contexts, particularly within the Philippine setting, this review contributes to the growing body of scholarship on learning environment management and provides a clearer understanding of how classroom climate, SEL, and engagement interact to influence student success. The findings emphasize the need for culturally responsive and contextually relevant frameworks that reflect the realities of Filipino learners and schools. Consequently, educators, school leaders, and policymakers should prioritize integrated strategies that simultaneously strengthen classroom climate, social-emotional development, and student engagement. Future efforts should focus on designing, implementing, and evaluating comprehensive learning environment models that are responsive to local needs and capable of promoting both academic excellence and holistic student development.

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Author Contribution

The author led the research by writing the introduction and methodology, reviewing and summarizing relevant literature, and organizing the findings into clear and meaningful figures to make the results easier to understand.

Competing Interest

The author declares that there are no conflicts of interest regarding this publication.

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