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Instructional, Relational, and Regulatory Dimensions of Classroom Management: An Empirical Multivariate Analysis of Secondary School Teachers in India

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ABSTRACT

Effective classroom management is increasingly understood as a multidimensional component of teacher professionalism, encompassing instructional competence, teacher–student relationships, behaviour management, and responsiveness to changing learning environments. This study examined classroom management strategies among 291 secondary school teachers, with particular attention to differences associated with age, gender, and locality, as well as the relative contributions of selected management-related dimensions. Data were collected using an 84-item instrument covering 21 classroom management strategies, measured on a three-point Likert scale. The instrument demonstrated satisfactory internal consistency (Cronbach's $\alpha = .89$). Descriptive findings indicated comparatively high levels of subject proficiency ($M = 2.96$, $SD = 0.18$), teacher–student relationships ($M = 2.92$, $SD = 0.22$), and behaviour management ($M = 2.90$, $SD = 0.25$), whereas online classroom management ($M = 1.89$, $SD = 0.40$) and punishment and reward ($M = 1.58$, $SD = 0.45$) received comparatively lower ratings. Significant differences in online classroom management were observed according to age and locality. Multiple regression analysis indicated that instructional competence and relational engagement were positively associated with the criterion variable, whereas punishment and reward showed a small negative association. The findings reinforce the view that classroom management extends beyond maintaining discipline and requires an integrated combination of instructional, relational, behavioural, and digital competencies. The study highlights implications for teacher education, school-based professional development, and institutional support for digitally responsive classroom practices. Given the cross-sectional and self-report nature of the study, the findings are interpreted as patterns of association rather than causal effects.

◆ **KEYWORDS:** classroom management; instructional competence; teacher–student relationships; behavior management; online classroom management; secondary school teachers; teacher professional competence.

1. INTRODUCTION

Classroom management is a fundamental dimension of effective teaching because it creates the conditions within which academic learning, social interaction, and student development can occur. Although classroom management has historically been associated with maintaining discipline and controlling disruptive behaviour, contemporary scholarship increasingly recognizes it as a multidimensional process involving instructional organization, teacher–student relationships, student engagement, behavioural regulation, classroom climate, and teachers' capacity to respond to changing learning environments (Evertson & Weinstein, 2006; Korpershoek et al., 2016). From this perspective, effective classroom management is not simply the ability to prevent or respond to misconduct. Rather, it involves the deliberate organization of teaching, relationships, routines, expectations, and learning opportunities in ways that support students' academic and social-emotional development.

The importance of classroom management is particularly evident in secondary education, where teachers work with increasingly diverse groups of learners and are required to balance academic expectations with students' developmental, social, and emotional needs. Secondary classrooms may include substantial variation in students' prior learning, motivation, language, socioeconomic circumstances, digital access, and behavioural patterns. Consequently, teachers require more than disciplinary techniques to create productive learning environments. They need strong subject knowledge, pedagogical competence, communication skills, relational sensitivity, behavioural-support strategies, and the ability to adapt classroom practices to changing educational contexts.

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Research over several decades has demonstrated that classroom management is closely connected with the quality of teaching and learning. Kounin (1970) showed that effective management involves teachers' awareness of classroom processes, smooth transitions, appropriate lesson momentum, and the prevention of disruption. Subsequent scholarship has expanded this perspective by emphasizing classroom structure, clearly communicated expectations, active student engagement, positive reinforcement, teacher–student relationships, and consistent responses to inappropriate behaviour (Marzano et al., 2003; Simonsen et al., 2008). Meta-analytic evidence further indicates that classroom-management interventions can influence students' academic, behavioural, emotional, and motivational outcomes (Korpershoek et al., 2016). These findings suggest that classroom management should be considered an integral component of pedagogical practice rather than a separate disciplinary function.

An important feature of contemporary classroom management research is the increasing recognition of instructional competence as a management resource. Teachers who possess strong subject knowledge and pedagogical competence are better positioned to design coherent lessons, anticipate student difficulties, maintain academic engagement, provide appropriate levels of challenge, and respond flexibly to students' learning needs. In this sense, effective instruction can operate as a preventive classroom-management strategy. When lessons are purposeful, well structured, and intellectually engaging, opportunities for disengagement and off-task behaviour may be reduced. Classroom management is therefore closely intertwined with the teacher's capacity to create meaningful learning experiences.

The relational dimension of classroom management is equally important. Teacher–student relationships influence how students experience classroom expectations, authority, belonging, and academic support. A classroom characterized by respect, fairness, trust, and responsiveness can create conditions in which students are more willing to participate and accept behavioural expectations. Recent evidence has demonstrated associations between teacher–student relationship quality and a broad range of student outcomes, including achievement, motivation, behaviour, engagement, belonging, and wellbeing (Endedijk et al., 2022; Emslander et al., 2025). Thus, effective classroom management cannot be reduced to the regulation of behaviour; it also depends on the interpersonal relationships through which teachers establish legitimacy and influence.

At the same time, behavioural regulation remains an essential responsibility of teachers. The challenge is to determine how behaviour should be regulated in ways that protect learning while maintaining students' dignity and participation. Contemporary evidence-based approaches emphasize proactive strategies such as establishing predictable routines, explicitly teaching behavioural expectations, actively supervising students, maximizing engagement, acknowledging appropriate behaviour, and using graduated responses to inappropriate behaviour (Simonsen et al., 2008). This represents an important shift from predominantly reactive or punitive approaches towards preventive and instructional forms of classroom management. Such a shift does not eliminate the need for boundaries or consequences; rather, it places behavioural regulation within a broader framework of teaching, relationships, and student development.

The changing nature of education has introduced another important dimension: digital classroom management. The rapid expansion of online, blended, and technology-supported learning has transformed the spaces in which teaching and learning take place. Teachers increasingly need to manage students' participation in virtual environments, digital communication, online assessment, screen-based attention, asynchronous activities, and technology-mediated collaboration. Consequently, classroom management can no longer be conceptualized exclusively in relation to the physical classroom. Digital competence and digital pedagogical organization are increasingly connected with teachers' capacity to maintain productive learning environments.

This transformation is particularly relevant in the Indian educational context. The National Education Policy 2020 positions teachers as central to educational transformation and emphasizes continuous professional development, contemporary pedagogical approaches, competency-based learning, formative and adaptive assessment, and the effective integration of technology (Ministry of Education, 2020). The policy also envisages sustained professional development opportunities for teachers. These priorities imply that classroom management should be addressed within broader teacher professional learning rather than treated as an isolated concern related only to discipline. The National Curriculum Framework for School Education 2023 further emphasizes learner-centred, competency-oriented, inclusive, and experiential approaches to schooling (National Council of Educational Research and Training, 2023). Such reforms require teachers to manage classrooms in ways that simultaneously support participation, inclusion, academic engagement, and learner agency.

The Indian context also presents considerable diversity in school environments. Teachers may work across rural, urban, tribal, and other educational settings that differ in institutional resources, student characteristics, community contexts, technological opportunities, and professional support. Such variation raises an important question: whether classroom-management practices are experienced and implemented uniformly across contexts. Differences associated with demographic and contextual characteristics may provide insights into areas requiring targeted teacher professional development. However, such differences should be interpreted cautiously because demographic variables may represent broader contextual conditions rather than direct causes of classroom-management behaviour.

Despite the growing body of research, classroom management remains a conceptually diverse field. A recent systematic meta-review identified substantial variation in the measurement of classroom management across existing studies, with instruments addressing different combinations of instructional practices, student behaviour, teacher–student interactions, classroom organization, and teacher-related factors (Chow et al., 2024). This measurement diversity indicates that classroom management is unlikely to be

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adequately represented by a single dimension. It also creates a need for empirical studies that examine multiple dimensions simultaneously and clearly distinguish instructional, relational, behavioural, and digital components.

Another important issue concerns teachers' classroom-management self-efficacy. Recent systematic evidence indicates that classroom-management self-efficacy is influenced by factors operating at teacher, classroom, and school levels, including teacher stress, job satisfaction, student behaviour, classroom climate, teacher–student relationships, school leadership, and school culture (Duan et al., 2024). This ecological perspective suggests that classroom management cannot be understood solely as an individual teacher characteristic. Teachers' practices are shaped by the interaction between their professional competence and the environments in which they teach.

Against this background, there is a need for empirical research that examines classroom management as an integrated professional competence encompassing instructional, relational, behavioural, regulatory, and digital dimensions. The present study addresses this need by examining classroom management strategies among 291 secondary school teachers. The study employs an 84-item instrument covering 21 classroom-management strategies and examines the reported levels of selected strategies, demographic differences, and the predictive contribution of instructional competence, relational engagement, and punishment and reward. The study therefore moves beyond a narrow conception of classroom management as disciplinary control and examines how different dimensions of teachers' classroom practices operate within a common empirical framework.

1.1 Research Problem and Gap

Although existing research provides strong evidence for the importance of classroom management, three issues remain insufficiently addressed. First, classroom management is frequently investigated through separate constructs such as teacher–student relationships, behaviour management, teacher efficacy, or instructional practices. There is comparatively less empirical work that brings these dimensions together within a single analytical framework. Second, considerable variation exists in how classroom management is operationalized and measured, making comparisons across studies difficult (Chow et al., 2024). Third, the increasing importance of digital learning has introduced online classroom management as a relatively newer dimension that requires further empirical attention, particularly across diverse educational contexts.

Within the Indian context, these issues are especially important because educational reforms associated with NEP 2020 require teachers to integrate learner-centred pedagogy, competency-based learning, technology, formative assessment, and inclusive educational practices. Such reforms inevitably change the nature of classroom management. Teachers are expected not only to maintain order but also to facilitate participation, promote student agency, manage diverse learning needs, establish supportive relationships, and use digital resources effectively.

The present study therefore addresses the need for an integrated examination of classroom-management practices among secondary school teachers. By examining 21 strategies through an 84-item instrument and analysing both demographic variation and predictive relationships, the study seeks to contribute empirical evidence to the evolving conceptualization of classroom management as a multidimensional component of teacher professionalism.

1.2 Purpose of the Study

The purpose of this study is to examine classroom-management strategies employed by secondary school teachers and to determine the extent to which instructional competence, relational engagement, behavioural regulation, and selected demographic characteristics are associated with classroom-management practices.

1.3 Research Questions

The study addresses the following research questions:

1. What classroom-management strategies are most and least strongly reported by secondary school teachers?
2. Are there significant differences in selected classroom-management strategies according to teachers' demographic characteristics?
3. To what extent do instructional competence, relational engagement, and punishment-and-reward practices predict the overall classroom-management effectiveness measure?
4. What do the findings imply for teacher education and continuing professional development in the context of contemporary educational reforms?

1.4 Contribution of the Study

The study contributes to classroom-management research in three ways. First, it adopts a multidimensional perspective that brings instructional, relational, behavioural, and digital dimensions into a common empirical framework. Second, it contributes evidence from secondary school teachers in the Indian educational context, thereby broadening the contextual evidence available within the classroom-management literature. Third, the findings have implications for teacher preparation and professional development by highlighting the importance of instructional competence and teacher–student relationships while drawing attention to the comparatively weaker area of online classroom management.

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Taken together, the study conceptualizes classroom management as a competence-driven, relational, preventive, and context-sensitive professional practice. This conceptualization is consistent with the contemporary movement away from viewing classroom management as a narrow mechanism of behavioural control towards a broader understanding of how teachers create conditions that enable students to learn, participate, interact, and develop within changing educational environments.

2. Literature Review

2.1 Conceptualising Classroom Management as a Multidimensional Construct

Classroom management has progressively shifted from a predominantly disciplinary conception towards a multidimensional understanding encompassing instructional organization, student engagement, teacher–student relationships, behavioural regulation, classroom climate, and teachers' professional competence. Evertson and Weinstein (2006) conceptualized classroom management as the actions undertaken by teachers to create environments that facilitate both academic and social-emotional learning. From this perspective, management is not limited to controlling disruptive behaviour but includes the organization of classroom processes in ways that maximize students' opportunities to learn.

The preventive orientation of classroom management can be traced to Kounin's (1970) work on *withitness*, lesson momentum, smoothness, overlapping, and group alerting. These concepts established the importance of teachers' proactive organization of classroom activities rather than relying exclusively on reactive disciplinary responses. Marzano et al. (2003) subsequently emphasized rules and procedures, disciplinary interventions, teacher–student relationships, and teachers' mental sets as interconnected dimensions of effective classroom management. Simonsen et al. (2008) further identified evidence-based practices involving classroom structure, explicit expectations, active student engagement, acknowledgement of appropriate behaviour, and consistent responses to inappropriate behaviour.

Recent research reinforces the multidimensional nature of the construct. Chow et al. (2024), in a systematic meta-review of classroom-management measures, examined 73 studies representing 76 different measures and found substantial variation in how classroom management has been conceptualized and assessed. The measures included instructional management, classroom organization, student behaviour, teacher–student relationships, and teacher-related factors. This measurement diversity is important because it indicates that classroom management cannot be adequately represented through a single disciplinary dimension.

More recent intervention evidence further strengthens this argument. Korpershoek et al. (2025) updated their earlier meta-analysis by incorporating 22 additional studies, resulting in 76 controlled intervention studies. The updated meta-analysis reported a small but statistically significant overall effect of classroom-management interventions on student outcomes (Hedges' g = .23). Importantly, the interventions included teacher behaviour, teacher–student relationships, student behaviour, and students' social-emotional development. The authors also observed that recent interventions placed greater emphasis on teacher–student relationships than earlier interventions.

These findings support the conceptualization of classroom management as a professional competence involving multiple interconnected processes. In the present study, this perspective is operationalized through 21 classroom-management strategies represented in an 84-item instrument. The dimensions examined include instructional competence, teacher–student relationships, behaviour management, online classroom management, and punishment and reward.

2.2 Instructional Competence and Preventive Classroom Management

Instructional competence is increasingly recognized as an important foundation of effective classroom management. Teachers who possess strong subject knowledge and pedagogical competence are better able to organize learning activities, provide clear explanations, anticipate misconceptions, adjust task difficulty, maintain lesson momentum, and engage students cognitively. Consequently, effective instruction can function as a preventive management strategy by reducing disengagement and maximizing students' opportunities to participate meaningfully.

Kounin's (1970) classical work established that classroom management is closely associated with the organization of instruction. His concepts of lesson momentum, smoothness, and teacher awareness demonstrated that teachers can prevent behavioural difficulties through effective instructional organization. Simonsen et al. (2008) similarly identified maximizing structure and predictability, explicitly teaching expectations, actively engaging students, and acknowledging appropriate behaviour as evidence-based classroom-management practices.

Contemporary research continues to support this relationship between instructional organization and classroom outcomes. The updated meta-analysis by Korpershoek et al. (2025) demonstrates that interventions targeting teacher behaviour and classroom-management processes continue to produce positive effects on student outcomes. Putraa and Yanto (2025) also reported, through a meta-analysis of 14 studies, a positive association between effective classroom management and student achievement, further emphasizing the role of management in creating conditions conducive to learning.

The relationship between instructional competence and management is particularly important in secondary education, where subject specialization increases the demands placed on teachers. Subject knowledge enables teachers to anticipate misconceptions and provide disciplinary explanations, while pedagogical knowledge allows them to transform subject content into accessible and

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engaging learning experiences. Effective classroom management may therefore be partly embedded in teachers' capacity to make learning purposeful, appropriately challenging, and well structured.

Subject Proficiency received the highest mean among the reported classroom-management strategies in the present study (M = 2.96, SD = 0.18). Furthermore, instructional competence emerged as the strongest positive predictor in the regression model (β = .48, $p < .001$). The convergence of descriptive and predictive findings indicates that teachers' perceptions of classroom-management effectiveness are closely associated with their instructional competence.

2.3 Teacher–Student Relationships as a Core Dimension of Classroom Management

Teacher–student relationships represent another central dimension of contemporary classroom management. Traditional approaches frequently emphasized teachers' authority and control, whereas relational approaches emphasize trust, respect, responsiveness, fairness, emotional support, and students' sense of belonging. The quality of teacher–student interactions can influence how students perceive classroom expectations and whether they view teachers' authority as legitimate and supportive.

The importance of teacher–student relationships has been demonstrated across multiple outcomes. Endedijk et al. (2022) showed that teacher–student relationship quality is associated not only with individual student outcomes but also with peer relationships, highlighting the wider social implications of classroom relationships. Their findings suggest that teachers can contribute to the broader classroom social environment through the quality of their interactions with students.

More recent evidence provides further support. Emslander et al. (2025) conducted a systematic second-order meta-analytic review of existing meta-analyses and found meaningful associations between teacher–student relationships and academic achievement, motivation, executive functioning, behaviour, school belonging, engagement, and wellbeing. Importantly, the authors reported that the relationship between teacher–student relationships and outcomes was particularly strong for middle- and high-school students, making the evidence especially relevant to secondary education.

Burns and Van Bergen (2025) further highlighted that teacher–student relationships in adolescent education are conceptualized inconsistently across studies, particularly in relation to their dimensions and measurement. Their systematic review demonstrates the need to distinguish positive dimensions, such as closeness and support, from negative dimensions, such as conflict. This finding is relevant to classroom-management research because relationship quality should not be treated simply as a general perception of teacher friendliness; rather, it encompasses multiple relational processes.

Recent longitudinal research has also strengthened the argument that teacher–student relationships have consequences over time. Di Lisio et al. (2025) reviewed longitudinal evidence concerning teacher–student relationships and school outcomes among both typical and vulnerable student populations. The review considered academic disengagement, underachievement, and early school leaving, while also examining populations experiencing social vulnerability, special educational needs, and mental-health challenges.

The present study is consistent with this relational perspective. Teacher–Student Relationship was among the highest-rated classroom-management strategies (M = 2.92, SD = 0.22), while relational engagement emerged as the second strongest positive predictor in the regression model (β = .39, $p < .001$). These findings reinforce the proposition that relational competence should be treated as an integral component of classroom management rather than as an additional or peripheral teacher characteristic.

2.4 Behaviour Management and the Shift from Punitive to Preventive Approaches

Behaviour management remains an essential component of classroom management because teachers must maintain conditions that enable students to participate in learning. However, contemporary research increasingly distinguishes preventive behaviour management from reactive disciplinary control. Preventive approaches emphasize clear expectations, predictable routines, active supervision, student engagement, positive acknowledgement, and consistent responses.

Simonsen et al. (2008) identified five broad evidence-based practices: maximizing classroom structure and predictability, explicitly teaching expectations, actively engaging students in instruction, acknowledging appropriate behaviour, and responding consistently to inappropriate behaviour. This framework emphasizes that teachers should teach behavioural expectations rather than assume that students automatically understand classroom norms.

The updated meta-analysis by Korpershoek et al. (2025) further demonstrates the effectiveness of classroom-management interventions across academic, behavioural, social-emotional, and motivational outcomes. The review distinguishes teacher-focused strategies, teacher–student relationship approaches, student-behaviour approaches, and social-emotional approaches, thereby reinforcing the view that behaviour management should be integrated within broader pedagogical and relational processes.

The role of punishment therefore requires careful consideration. Punitive strategies can sometimes provide immediate behavioural control, but an overreliance on punishment may not address the instructional, relational, or contextual conditions contributing to student behaviour. Contemporary classroom-management approaches increasingly emphasize proportionate, predictable, and educationally meaningful responses rather than punishment as the primary mechanism of control.

This issue is particularly relevant to the present study because Punishment and Reward received the lowest mean among the reported strategies (M = 1.58, SD = 0.45). In addition, the regression model showed a small negative standardized coefficient for

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Punishment and Reward (β = −.12, p = .021). This pattern is compatible with the contemporary movement towards preventive, instructional, and relational approaches. Nevertheless, because the present study is cross-sectional, the coefficient should be interpreted as an association and not as evidence that punitive practices cause ineffective classroom management.

2.5 Classroom-Management Self-Efficacy and the Ecological Perspective

An important development in contemporary research is the recognition that classroom management is influenced not only by teachers' skills but also by their beliefs about their capacity to manage classroom processes and by the environments in which they work. Classroom-management self-efficacy refers to teachers' perceived capability to establish and maintain productive classroom environments.

Duan et al. (2024) conducted a systematic review and meta-analysis involving 87 empirical studies and identified 22 correlates of teachers' classroom-management self-efficacy. These correlates operated across teacher, classroom, and school levels. Teacher-level factors included work experience, teacher beliefs, stress, job satisfaction, commitment, personality, and burnout; classroom-level factors included classroom climate, student misbehaviour, achievement, classroom interaction, and teacher–student relationships; and school-level factors included principal leadership and school culture.

The ecological nature of these findings is important for understanding demographic differences in classroom-management practices. Teacher characteristics such as age or experience may interact with contextual variables, including professional development, leadership support, school resources, classroom composition, and technological infrastructure. Consequently, demographic differences should not automatically be interpreted as direct causal effects of age, gender, or locality.

The present study found statistically significant differences in Online Classroom Management according to age and locality. The age difference was significant, $F(1, 289) = 4.82$, p = .029, η^2 = .016, while the difference according to locality was also significant, $F(2, 288) = 6.14$, p = .002, η^2 = .041. However, the relatively small effect sizes indicate that the practical magnitude of these differences is limited. The findings therefore provide evidence of contextual variation rather than evidence that demographic characteristics directly determine online classroom-management competence.

2.6 Digital Transformation and Online Classroom Management

The increasing use of digital technologies has expanded the scope of classroom management beyond the physical classroom. Online and blended learning environments require teachers to establish expectations for digital participation, manage online communication, monitor engagement, organize asynchronous learning, conduct digital assessment, and respond to new forms of distraction and disengagement.

Digital classroom management should therefore be understood as a pedagogical rather than merely technical competence. Teachers need to integrate technology with instructional purposes while maintaining student participation, appropriate communication, and equitable access. Digital environments also introduce challenges related to students' attention, privacy, digital citizenship, and access to devices and connectivity.

The comparatively low mean for Online Classroom Management in the present study (M = 1.89, SD = 0.40) is therefore noteworthy from a professional-development perspective. The finding suggests that online classroom management may be a comparatively less developed component of the teachers' reported classroom-management repertoire.

The observed age and locality differences further indicate that online management may be influenced by contextual and professional factors. However, the present study does not directly measure digital infrastructure, access to devices, teachers' digital competence, or exposure to technology-focused professional development. Consequently, locality should not be interpreted as a direct cause of differences in online classroom management. Rather, the finding identifies an area requiring further empirical investigation.

2.7 Measurement and Methodological Issues in Classroom-Management Research

Measurement remains an important methodological concern in classroom-management research. Chow et al. (2024) identified 76 different classroom-management measures across 73 studies, demonstrating substantial variation in conceptualization and operationalization. This heterogeneity makes direct comparisons between studies difficult because measures may capture teacher behaviour, student perceptions, classroom climate, teacher efficacy, or combinations of these constructs.

The measurement challenge is especially relevant when classroom management is investigated through teacher self-report. Self-report measures provide valuable information concerning teachers' perceptions and professional practices, but they may also be influenced by social desirability and common-method variance. Consequently, recent research supports the use of multiple sources of evidence, including teacher reports, student perceptions, classroom observations, and school-level indicators.

The present study contributes to this literature by examining 21 strategies through an 84-item instrument. The reported overall Cronbach's alpha of .89 indicates strong internal consistency. However, overall reliability does not by itself establish construct validity. Further research should therefore examine the factor structure of the instrument and determine whether the proposed dimensions are empirically distinguishable and stable across demographic groups.

2.8 Synthesis of the Literature and Research Gap

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The literature reviewed above demonstrates a substantial conceptual shift in classroom-management research. Four interconnected developments are particularly evident.

First, classroom management is increasingly understood as a multidimensional professional competence rather than a narrow disciplinary function. Recent reviews demonstrate that effective management encompasses teacher behaviour, classroom organization, student behaviour, teacher–student relationships, and social-emotional processes (Chow et al., 2024; Korpershoek et al., 2025).

Second, instructional competence and classroom management are closely interconnected. Effective lesson organization, meaningful student engagement, clear expectations, and appropriate academic challenge can operate as preventive forms of management. Recent meta-analytic evidence also demonstrates that classroom-management interventions can contribute to student achievement and other educational outcomes (Korpershoek et al., 2025; Putraa & Yanto, 2025).

Third, teacher–student relationships have become increasingly central to the conceptualization of effective classroom management. Recent second-order meta-analytic evidence demonstrates associations between teacher–student relationship quality and academic, behavioural, motivational, engagement, belonging, and wellbeing outcomes (Emslander et al., 2025). Evidence also suggests that these relationships may be particularly important during adolescence and secondary schooling (Burns & Van Bergen, 2025; Di Lisio et al., 2025).

Fourth, classroom management is increasingly shaped by digital transformation and contextual factors. Online learning has introduced new management requirements, while recent research on classroom-management self-efficacy demonstrates that teacher, classroom, and school factors interact in shaping teachers' management capabilities (Duan et al., 2024).

Despite these developments, important gaps remain. Existing research frequently examines instructional management, relationships, behaviour, teacher efficacy, or digital practices as separate areas. There is a need for empirical research that integrates these dimensions within a common framework. There is also considerable variation in classroom-management measurement, highlighting the need for theoretically grounded multidimensional instruments (Chow et al., 2024).

A further gap concerns the evidence base from diverse educational contexts. Although classroom-management research is extensive internationally, comparatively less attention has been given to how instructional, relational, behavioural, and online classroom-management practices operate together among secondary school teachers in the Indian context. This is particularly important given the emphasis of Indian educational reforms on competency-based, learner-centred, inclusive, technology-supported, and professionally responsive teaching.

The present study addresses this gap by examining 21 classroom-management strategies among 291 secondary school teachers using an 84-item instrument. It investigates the relative prominence of different management strategies, selected demographic differences, and the predictive contribution of instructional competence, relational engagement, and punishment and reward. The study consequently contributes to the emerging understanding of classroom management as an instructional, relational, preventive, behavioural, and digitally responsive dimension of teacher professionalism.

3. Methodology

3.1 Research Design

The study adopted a quantitative, cross-sectional survey design to examine classroom-management practices among secondary school teachers. A survey approach was considered appropriate because the study sought to identify the extent to which teachers reported using different classroom-management strategies and to examine variations in these practices across selected demographic characteristics.

The analysis incorporated three complementary levels. First, descriptive statistics were used to determine the relative prominence of individual classroom-management strategies. Second, inferential analysis was conducted to examine whether selected classroom-management practices differed according to demographic characteristics. Third, multiple regression analysis was employed to examine the extent to which instructional competence, relational engagement, and punishment-and-reward practices statistically predicted the overall classroom-management effectiveness measure.

Because the study employed a cross-sectional design, the regression findings are interpreted as statistical associations and predictive relationships rather than causal effects. This distinction is important because the data were collected at one point in time and the study did not manipulate any classroom-management variables.

3.2 Participants

The sample comprised 291 secondary school teachers. Of these, 144 were male and 147 were female. With respect to age, 111 participants were aged 35 years or below, while 180 participants were above 35 years. The teachers represented three locality categories: rural (n = 88), urban (n = 109), and tribal (n = 94). In terms of residential status, 149 teachers were classified as residential and 142 as non-residential.

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The distribution of participants provides representation across selected demographic and contextual categories relevant to the study. In particular, the inclusion of rural, urban, and tribal categories permits examination of whether teachers' reported classroom-management practices vary across different locality contexts.

3.3 Research Instrument

Data were collected using an 84-item classroom-management instrument comprising 21 classroom-management strategies. All items were rated using a three-point Likert-type response scale. The instrument was designed to capture multiple dimensions of classroom management rather than restricting the construct to disciplinary control.

The strategies represented different aspects of classroom-management practice, including instructional competence, teacher–student relationships, behaviour management, online classroom management, and punishment and reward. This multidimensional structure is consistent with contemporary classroom-management scholarship, which increasingly recognizes instructional, behavioural, relational, and organizational processes as interconnected components of classroom management (Chow et al., 2024; Korpershoek et al., 2025).

The multidimensional structure is particularly appropriate because recent evidence indicates substantial variation in the way classroom management is operationalized. Chow et al. (2024), for example, identified 76 different classroom-management measures across 73 studies and found that the measures addressed instructional management, student behaviour, teacher–student interactions and relationships, classroom organization, and other teacher-related dimensions.

3.4 Reliability of the Instrument

The overall internal consistency of the instrument was examined using Cronbach's alpha. The obtained coefficient was $\alpha = .89$, indicating strong internal consistency among the 84 items.

The reliability coefficient indicates that the items demonstrate a high degree of internal consistency as a whole. However, reliability should not be interpreted as evidence of construct validity. In a multidimensional instrument, a high overall alpha may partly reflect the number of items and does not necessarily demonstrate that the 21 strategies constitute empirically distinct dimensions.

Accordingly, future validation studies should examine the instrument's dimensional structure using exploratory factor analysis and/or confirmatory factor analysis. Such analyses would help determine whether the theoretically identified dimensions are statistically distinguishable and whether the measurement structure is stable across relevant teacher groups.

3.5 Variables Examined

The study examined classroom management through several interrelated dimensions.

Instructional competence refers to teachers' capacity to organize and facilitate learning through subject knowledge, pedagogical clarity, lesson organization, and appropriate instructional practices.

Relational engagement refers to the quality of teacher–student interactions, including supportive, respectful, and constructive relationships that contribute to the classroom climate.

Behaviour management refers to teachers' strategies for maintaining appropriate classroom behaviour and supporting student engagement.

Online classroom management refers to teachers' reported practices for organizing and regulating learning within digitally mediated or online environments.

Punishment and reward refer to the use of consequences and reinforcement as mechanisms for influencing student behaviour.

The overall classroom-management effectiveness measure was examined as the dependent outcome in the regression analysis, with instructional competence, relational engagement, and punishment and reward entered as predictors. These three predictors accounted for 62% of the variance in the outcome measure.

3.6 Data Collection Procedure

The study involved the administration of the classroom-management instrument to secondary school teachers. The final dataset comprised responses from 291 participants.

Information concerning the period of data collection, mode of administration, institutional permissions, participant recruitment procedure, informed-consent process, and ethical approval should be provided in the final manuscript based on the actual procedures followed by the researchers.

3.7 Data Analysis

The data were analysed using descriptive and inferential statistical procedures.

Descriptive statistics, specifically means and standard deviations, were calculated to examine the relative endorsement of selected classroom-management strategies. The reported means were interpreted in relation to the three-point response scale.

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Analysis of variance (ANOVA) was used to examine differences in selected classroom-management strategies across demographic categories. Statistical significance was evaluated at the conventional .05 level. Where appropriate, eta squared (η^2) was used as an effect-size indicator to provide information about the magnitude of observed group differences.

Multiple linear regression was conducted to examine the predictive contributions of instructional competence, relational engagement, and punishment and reward to the overall classroom-management effectiveness measure. Standardized beta coefficients (β), unstandardized coefficients (B), standard errors (SE), significance values, and the coefficient of determination (R^2) were considered when interpreting the regression model.

3.8 Statistical Reporting and Interpretation

The study reported statistically significant differences in Online Classroom Management according to age and locality. The age comparison yielded $F(1, 289) = 4.82$, $p = .029$, $\eta^2 = .016$, while the locality comparison yielded $F(2, 288) = 6.14$, $p = .002$, $\eta^2 = .041$. The gender difference reported for Punishment and Reward was not statistically significant, $F(1, 289) = 1.12$, $p = .291$, $\eta^2 = .004$.

The effect sizes indicate that the statistically significant demographic differences were relatively small. Therefore, statistical significance should not be interpreted as evidence of substantial practical differences between groups.

The multiple regression model was statistically significant, $F(3, 287) = 156.42$, $p < .001$, with $R^2 = .62$. Instructional competence had a standardized coefficient of $\beta = .48$ ($p < .001$), relational engagement had $\beta = .39$ ($p < .001$), and punishment and reward had $\beta = -.12$ ($p = .021$).

The R^2 value indicates that 62% of the variance in the specified classroom-management effectiveness outcome was statistically accounted for by the three predictors in the model. However, this should not be interpreted as evidence that the three variables cause classroom-management effectiveness. Moreover, because the predictors and outcome appear to originate from related dimensions of the same overall instrument, possible conceptual and measurement overlap should be considered when interpreting the relatively high R^2.

3.9 Methodological Considerations

The methodological structure of the study provides several strengths. First, the sample of 291 teachers provides a reasonable basis for descriptive and multivariate analyses. Second, the instrument examines classroom management through multiple dimensions rather than focusing exclusively on disciplinary practices. Third, the use of both ANOVA and regression enables the study to examine demographic variation and relationships among key dimensions.

At the same time, several methodological considerations should be acknowledged. The reliance on teacher self-report means that the findings represent teachers' reported practices rather than independently observed classroom behaviour. Self-report data may be influenced by social desirability, recall, and respondents' interpretations of the items. In addition, the cross-sectional design limits causal inference.

Future research could strengthen the evidence by combining teacher self-reports with student perceptions, structured classroom observations, qualitative interviews, and longitudinal measurements. Such multi-method designs would provide a more comprehensive assessment of how classroom-management strategies are enacted in practice.

3.10 Ethical Considerations

Ethical procedures should be reported according to the actual procedures followed during data collection. The final manuscript should specify the institutional ethics approval or exemption, informed-consent procedure, voluntary participation, confidentiality and anonymity arrangements, and secure handling of research data.

These details should be completed by the authors based on the actual procedures followed before submission.

4. Results

The results are presented in three stages. First, descriptive statistics were used to identify the relative prominence of the selected classroom-management strategies. Second, inferential analyses examined differences in selected strategies according to demographic characteristics. Third, multiple regression analysis was conducted to determine the relative predictive contributions of instructional competence, relational engagement, and punishment and reward to classroom-management effectiveness.

4.1 Descriptive Analysis of Classroom-Management Strategies

Descriptive statistics were calculated for five key classroom-management strategies: Subject Proficiency, Teacher–Student Relationship, Behaviour Management, Online Classroom Management, and Punishment and Reward. The mean and standard deviation values are presented in Table 1.

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Table 1: *Descriptive Statistics of Key Classroom-Management Strategies*

Classroom-management strategy	M	SD
Subject Proficiency	2.96	0.18
Teacher–Student Relationship	2.92	0.22
Behaviour Management	2.90	0.25
Online Classroom Management	1.89	0.40
Punishment and Reward	1.58	0.45

Note. Responses were measured using a three-point Likert-type scale.

As shown in Table 1, Subject Proficiency recorded the highest mean score (M = 2.96, SD = 0.18), indicating that instructional or subject-related competence was the most strongly reported strategy among the dimensions examined. This was followed closely by Teacher–Student Relationship (M = 2.92, SD = 0.22) and Behaviour Management (M = 2.90, SD = 0.25).

In contrast, Online Classroom Management recorded a considerably lower mean (M = 1.89, SD = 0.40). The lowest mean was observed for Punishment and Reward (M = 1.58, SD = 0.45). The comparatively larger standard deviations for Online Classroom Management and Punishment and Reward indicate greater variability in teachers' responses than was observed for Subject Proficiency, Teacher–Student Relationship, and Behaviour Management.

Overall, the descriptive pattern suggests that the participating teachers reported greater reliance on instructional, relational, and behavioural dimensions of classroom management than on online-management and punishment-and-reward strategies.

4.2 Differences in Classroom-Management Strategies by Demographic Characteristics

Analysis of variance was conducted to determine whether selected classroom-management strategies differed according to teachers' demographic characteristics. The statistically significant and non-significant findings are presented in Table 2.

Table 2: *ANOVA Results for Selected Classroom-Management Strategies by Demographic Characteristics*

Variable	df	F	p	η^2
Online Classroom Management – Age	1, 289	4.82	.029	.016
Online Classroom Management – Locality	2, 288	6.14	.002	.041
Punishment and Reward – Gender	1, 289	1.12	.291	.004

Note. η^2 *= eta squared.*

The results indicate a statistically significant difference in Online Classroom Management according to age, $F(1, 289) = 4.82$, $p = .029$, $\eta^2 = .016$. The effect size, however, was small, suggesting that age accounted for only a limited proportion of the variance in online classroom-management scores.

A statistically significant difference was also observed in Online Classroom Management according to locality, $F(2, 288) = 6.14$, $p = .002$, $\eta^2 = .041$. The locality effect was larger than the age effect but remained relatively small in magnitude. The result indicates that reported online classroom-management practices varied across the rural, urban, and tribal locality categories represented in the sample.

The analysis further indicated that Punishment and Reward did not differ significantly according to gender, $F(1, 289) = 1.12$, $p = .291$, $\eta^2 = .004$. The very small effect size indicates minimal variation associated with gender for this particular strategy.

It is important to note that the available analysis does not report post-hoc comparisons for the significant locality effect. Therefore, the findings establish an overall difference among locality groups but do not identify which specific groups differed from one another. Post-hoc tests, such as Tukey's HSD, would be required to make group-specific comparisons.

4.3 Multiple Regression Analysis

Multiple linear regression was conducted to examine the predictive contributions of Instructional Competence, Relational Engagement, and Punishment and Reward to the overall classroom-management effectiveness measure.

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The regression model was statistically significant, $F(3, 287) = 156.42$, $p < .001$, and explained 62% of the variance in the specified classroom-management effectiveness outcome ($R^2 = .62$). The regression coefficients are presented in Table 3.

Table 3: *Multiple Regression Predicting Classroom-Management Effectiveness*

Predictor	B	SE	β	p
Instructional Competence	0.52	0.05	.48	< .001
Relational Engagement	0.44	0.06	.39	< .001
Punishment and Reward	−0.18	0.07	−.12	.021

Note. B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient.

The results demonstrate that Instructional Competence was the strongest positive predictor of classroom-management effectiveness, with a standardized coefficient of $\beta = .48$, $p < .001$. This indicates that, within the specified regression model, higher levels of instructional competence were associated with higher classroom-management effectiveness. The regression model identifies statistical associations within the present sample and should not be interpreted as demonstrating causal effects.

Relational Engagement was the second strongest positive predictor, with $\beta = .39$, $p < .001$, after accounting for the other predictors in the model.

In contrast, Punishment and Reward demonstrated a small negative standardized coefficient ($\beta = -.12$, $p = .021$). Thus, higher scores on the punishment-and-reward dimension were statistically associated with lower scores on the specified classroom-management effectiveness outcome when the other predictors were held constant.

The relative magnitude of the standardized coefficients indicates that instructional competence made the largest unique contribution among the three predictors, followed by relational engagement. The contribution of punishment and reward was comparatively smaller and negative.

The overall model explained 62% of the variance in the dependent measure. Although this represents a substantial proportion of explained variance, the result should be interpreted cautiously because the variables were measured within the same broader classroom-management framework. Conceptual overlap among the predictors and outcome may contribute to the magnitude of the model's explanatory power.

High scores in Subject Proficiency, Teacher–Student Relationship, and Behaviour Management indicate areas of comparatively strong self-reported practice; they do not independently establish that these practices produce better student outcomes.

4.4 Integrated Interpretation of the Findings

Taken together, the descriptive, inferential, and regression results reveal a consistent pattern. Teachers reported particularly high levels of Subject Proficiency, Teacher–Student Relationship, and Behaviour Management, whereas Online Classroom Management and Punishment and Reward received lower mean scores.

The regression results provide additional evidence that the instructional and relational dimensions were strongly associated with the overall classroom-management effectiveness measure. Instructional Competence emerged as the strongest positive predictor, followed by Relational Engagement. The negative coefficient associated with Punishment and Reward indicates that greater reliance on this dimension was associated with lower classroom-management effectiveness within the statistical model.

The demographic analysis further indicates that online classroom-management practices varied according to age and locality. However, the relatively small eta-squared values indicate that these demographic differences should not be interpreted as large effects. Furthermore, because the study did not directly measure technological infrastructure, access to devices, internet connectivity, or digital professional development, the locality finding should be interpreted as contextual variation rather than as direct evidence of structural digital inequality.

Overall, the findings point towards a classroom-management pattern in which instructional competence and relational engagement are more prominent than punitive regulation, while online classroom management represents an area in which teachers report comparatively lower levels of practice.

5. Discussion

The present study examined classroom-management practices among 291 secondary school teachers using a multidimensional framework encompassing instructional, relational, behavioural, online, and punishment-and-reward dimensions. The findings indicate that classroom management is not experienced primarily as a matter of disciplinary control. Instead, the strongest reported strategies were Subject Proficiency, Teacher–Student Relationship, and Behaviour Management, whereas Online Classroom

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Management and Punishment and Reward received comparatively lower ratings. Furthermore, instructional competence and relational engagement emerged as significant positive predictors of the specified classroom-management effectiveness measure. These findings are broadly consistent with the contemporary conceptualization of classroom management as a multidimensional professional competence involving the organization of learning, relationships, engagement, and behaviour rather than simply the suppression of disruption (Chow et al., 2024; Korpershoek et al., 2025).

5.1 Subject Proficiency and Instructional Competence as Foundations of Classroom Management

The highest mean score was obtained for Subject Proficiency ($M = 2.96$, $SD = 0.18$), and Instructional Competence was the strongest predictor in the regression model ($\beta = .48$, $p < .001$). This finding suggests that teachers may perceive effective classroom management as closely connected with their ability to organize and communicate subject matter effectively.

This interpretation is consistent with the preventive perspective established in classroom-management research. Kounin (1970) argued that effective management is closely connected with lesson momentum, smooth transitions, teacher awareness, and the organization of classroom activity. When teachers maintain an appropriate pace, provide clear explanations, anticipate difficulties, and engage students in purposeful learning activities, classroom-management problems can potentially be addressed before they escalate.

The finding also corresponds with contemporary evidence demonstrating that classroom-management interventions are associated with positive student outcomes. In their updated meta-analysis, Korpershoek et al. (2025) synthesized 76 controlled intervention studies and found a statistically significant overall effect of classroom-management interventions on students' academic, behavioural, social-emotional, and motivational outcomes. The review also reflects a broader movement towards understanding management through teacher practices rather than disciplinary control alone.

The strong contribution of instructional competence in the present study is therefore theoretically meaningful. It indicates that classroom management may be embedded in the quality of instruction itself. Teachers who are confident in their subject knowledge and pedagogical decisions may be better positioned to maintain student attention, provide appropriately challenging tasks, respond to misconceptions, and organize classroom activities efficiently.

However, the regression coefficient should not be interpreted causally. Because the study is cross-sectional and the predictors and outcome are derived from related classroom-management constructs, the finding demonstrates a statistical association rather than proof that instructional competence causes effective classroom management. Future longitudinal and observational studies are required to establish the direction and strength of this relationship.

5.2 Teacher–Student Relationships as a Central Management Resource

Teacher–Student Relationship was the second-highest reported strategy ($M = 2.92$, $SD = 0.22$), and Relational Engagement emerged as the second strongest positive predictor ($\beta = .39$, $p < .001$). This finding reinforces the increasingly important role assigned to relationships within contemporary classroom-management research.

Traditional conceptions of classroom management sometimes positioned teachers primarily as authority figures responsible for maintaining order. Contemporary approaches provide a broader understanding in which teachers establish authority partly through supportive, respectful, and predictable relationships with students. Students are more likely to participate in learning environments in which they perceive teachers as fair, responsive, and supportive.

The recent evidence base strongly supports this interpretation. Emslander et al. (2025), in a systematic second-order meta-analytic review, found meaningful associations between teacher–student relationship quality and academic achievement, motivation, executive functioning, behaviour, engagement, school belonging, and wellbeing. The evidence is particularly relevant to the present study because the associations were also examined across different educational stages, including middle- and high-school contexts.

Similarly, Endedijk et al. (2022) demonstrated that teacher–student relationships are connected with students' peer relationships, suggesting that the relational influence of teachers may extend beyond individual teacher–student interactions to the wider classroom social environment. Burns and Van Bergen (2025) further noted the conceptual diversity in research on teacher–student relationships among adolescents, highlighting the importance of distinguishing dimensions such as closeness, support, and conflict.

The present finding therefore supports the argument that relational engagement should not be treated as an optional interpersonal quality added to classroom management. Instead, it can be understood as one of the mechanisms through which teachers establish classroom norms, student participation, trust, and behavioural expectations.

At the same time, the relationship should not be interpreted simplistically. A positive teacher–student relationship does not mean that teachers should eliminate authority, rules, or behavioural expectations. Rather, effective management may involve combining clear boundaries with respectful and supportive interactions. The implication is not that relational approaches replace classroom structure, but that structure may be more effective when implemented within a positive relational climate.

5.3 Behaviour Management and the Preventive Orientation

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Behaviour Management recorded a high mean score (M = 2.90, SD = 0.25), placing it among the most strongly reported classroom-management strategies. This finding indicates that behavioural regulation remains an important component of teachers' classroom practices.

The result is consistent with the evidence-based framework proposed by Simonsen et al. (2008), which emphasizes maximizing classroom structure and predictability, explicitly teaching expectations, actively engaging students, acknowledging appropriate behaviour, and responding consistently to inappropriate behaviour. These practices represent a preventive orientation because they attempt to establish conditions that reduce the likelihood of disruptive behaviour rather than relying solely on punishment after disruption occurs.

The finding also aligns with Korpershoek et al. (2025), whose updated meta-analysis indicates that classroom-management interventions can influence behavioural as well as academic and social-emotional outcomes. The evidence suggests that behaviour management is most appropriately understood as part of a broader instructional system.

The relatively high rating for Behaviour Management alongside the lower rating for Punishment and Reward is particularly noteworthy. Together, these findings suggest that teachers may distinguish between managing behaviour and punishing behaviour. Behaviour management can involve proactive routines, expectations, supervision, engagement, and restorative responses, whereas punishment and reward represent a narrower set of behavioural-control mechanisms.

This distinction is important for contemporary teacher education. Professional-development programmes should not equate behaviour management with disciplinary control. Instead, teachers should be supported in developing preventive strategies that combine classroom structure, active engagement, positive reinforcement, clear expectations, and proportionate responses to inappropriate behaviour.

5.4 Lower Reliance on Punishment and Reward

Punishment and Reward recorded the lowest mean score (M = 1.58, SD = 0.45). It also showed a small but statistically significant negative association with the specified classroom-management effectiveness measure ($\beta = -.12$, $p = .021$).

This finding is consistent with the broader movement in classroom-management research away from predominantly punitive approaches towards preventive and relational strategies. The contemporary literature emphasizes establishing expectations, engaging students, acknowledging appropriate behaviour, and creating supportive classroom climates rather than relying primarily on punishment (Simonsen et al., 2008; Korpershoek et al., 2025).

The negative regression coefficient should nevertheless be interpreted cautiously. It does not demonstrate that punishment and reward cause ineffective classroom management. One possible interpretation is that teachers who experience greater classroom-management difficulties may report greater reliance on punitive or reward-based strategies. An alternative explanation is that greater dependence on external behavioural control may coexist with weaker instructional or relational approaches. Because the present design cannot distinguish among these possibilities, causal claims are inappropriate.

The finding that gender was not significantly associated with Punishment and Reward, $F(1, 289) = 1.12$, $p = .291$, $\eta^2 = .004$, further suggests that reported reliance on these practices was relatively similar across male and female teachers. The extremely small effect size indicates that gender accounted for very little variation in this dimension.

5.5 Online Classroom Management as an Emerging Professional Challenge

Online Classroom Management recorded a considerably lower mean (M = 1.89, SD = 0.40) than Subject Proficiency, Teacher–Student Relationship, and Behaviour Management. This result identifies digital classroom management as a potential area for professional development.

The emergence of online and blended learning has expanded the meaning of classroom management. Teachers must increasingly manage digital participation, communication, online collaboration, asynchronous tasks, virtual assessment, and student attention in technology-mediated environments. These practices require more than technical familiarity with digital platforms; they involve pedagogical decisions concerning structure, interaction, participation, monitoring, and feedback.

The relatively low score observed in the present study may therefore indicate that teachers' classroom-management repertoires remain more strongly oriented towards physical classroom environments than towards digitally mediated settings. However, this interpretation should remain tentative because the study did not directly measure teachers' digital competence, access to technological infrastructure, frequency of online teaching, or participation in digital professional development.

The result is nevertheless important in the context of educational transformation in India. The National Education Policy 2020 emphasizes the meaningful integration of technology into education and the continuous professional development of teachers (Ministry of Education, 2020). The National Curriculum Framework for School Education 2023 similarly emphasizes learner-centred and competency-oriented educational practices (National Council of Educational Research and Training, 2023). These policy directions increase the importance of preparing teachers to manage both physical and digitally mediated learning environments.

5.6 Age and Locality Differences in Online Classroom Management

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The study identified statistically significant differences in Online Classroom Management according to age and locality. The age effect was statistically significant, $F(1, 289) = 4.82$, $p = .029$, $\eta^2 = .016$, while the locality effect was also significant, $F(2, 288) = 6.14$, $p = .002$, $\eta^2 = .041$.

Although statistically significant, the effect sizes were relatively small. Therefore, these results should be interpreted as evidence of limited contextual variation rather than as evidence that age or locality strongly determines teachers' online-management competence.

The finding is compatible with the ecological perspective advanced by Duan et al. (2024), who demonstrated that classroom-management self-efficacy is associated with factors operating at teacher, classroom, and school levels. Their findings suggest that classroom management cannot be adequately explained through individual teacher characteristics alone.

The locality finding is particularly relevant in the Indian context because teachers working in different settings may encounter different institutional environments, professional-learning opportunities, technological resources, and student populations. However, the present study did not directly assess these mechanisms. Therefore, it would be inappropriate to attribute the observed locality difference specifically to digital infrastructure or socioeconomic conditions.

The finding instead provides a useful direction for future research. Comparative studies involving measures of digital infrastructure, teacher digital competence, school-level technological support, and professional-development exposure could determine why online classroom-management practices vary across contexts.

5.7 An Integrated Interpretation of Classroom Management

The overall pattern of findings supports an integrated interpretation of classroom management. The strongest strategies were Subject Proficiency, Teacher–Student Relationship, and Behaviour Management, while Punishment and Reward received the lowest rating. In addition, Instructional Competence and Relational Engagement were the strongest positive predictors of the specified classroom-management effectiveness measure.

This pattern is consistent with the recent conceptual shift in the field. Chow et al. (2024) demonstrated substantial diversity in the measurement of classroom management, while Korpershoek et al. (2025) showed that contemporary classroom-management interventions encompass multiple domains, including teacher behaviour, teacher–student relationships, student behaviour, and social-emotional development.

The findings therefore suggest that classroom management may be conceptualized as a layered professional process. At the instructional level, teachers create purposeful and well-organized learning experiences. At the relational level, they establish trust, respect, and supportive interactions. At the behavioural level, they establish expectations, routines, and appropriate responses. At the digital level, they adapt these practices to technology-mediated learning environments. Punishment and reward constitute only one possible behavioural mechanism and appear to play a comparatively less prominent role in the present sample.

This integrated interpretation is particularly relevant for teacher education. If classroom management is taught primarily as discipline, teacher candidates may develop a narrow repertoire focused on controlling student behaviour. A more comprehensive approach would integrate classroom management with lesson planning, pedagogical content knowledge, assessment, student engagement, social-emotional learning, inclusive practices, teacher–student relationships, and digital pedagogy.

5.8 Implications for Teacher Education and Professional Development

The findings have several implications for teacher preparation and continuing professional development.

First, instructional competence should be treated as a classroom-management competence. Teacher-education programmes should explicitly demonstrate how subject knowledge, pedagogical clarity, lesson organization, questioning, differentiation, formative assessment, and student engagement contribute to effective management.

Second, teacher–student relationships should receive systematic attention. Professional-development programmes can include communication, active listening, culturally responsive interaction, conflict resolution, restorative practices, and strategies for developing classroom belonging.

Third, behaviour management should emphasize preventive practices. Teachers should be supported in establishing clear expectations, predictable routines, active supervision, positive acknowledgement, and proportionate responses to inappropriate behaviour rather than relying predominantly on punitive measures.

Fourth, digital classroom management requires targeted professional learning. Teachers need opportunities to develop strategies for managing online participation, digital communication, student engagement, virtual collaboration, and technology-supported assessment.

Finally, professional development should be context-sensitive. The observed locality differences suggest that a uniform training model may not adequately address teachers' needs across rural, urban, and tribal contexts. Professional learning should therefore consider institutional resources, technological conditions, student diversity, and local educational realities.

5.9 Theoretical Contribution

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The study contributes to the conceptual development of classroom-management research by providing empirical support for a shift from a control-oriented model towards a competence- and relationship-oriented model.

The findings indicate that teachers' classroom-management practices are strongly associated with instructional and relational dimensions. This complements classical classroom-management theories emphasizing structure and prevention while incorporating contemporary evidence concerning relationships, engagement, and student outcomes.

The study also extends the conceptual scope of classroom management by explicitly considering online classroom management. Although the digital dimension received a lower mean in the present sample, its inclusion recognizes that contemporary teachers increasingly operate across physical and digital learning spaces.

The resulting conceptual position can be represented as follows:

Instructional competence → purposeful learning and engagement
Relational engagement → trust, belonging, and constructive interaction
Behaviour management → structure, expectations, and behavioural regulation
Digital competence → organization of online and blended learning

Together, these dimensions contribute to a broader conception of classroom management as a multidimensional professional practice rather than a narrow disciplinary function.

5.10 Relationship to Existing Evidence

The findings demonstrate substantial convergence with recent evidence while also identifying context-specific issues. The strong role of instructional competence is consistent with research emphasizing teacher practices and classroom organization. The importance of relational engagement corresponds with recent meta-analytic evidence demonstrating associations between teacher–student relationships and academic, behavioural, motivational, and wellbeing outcomes (Emslander et al., 2025). The lower emphasis on punishment and reward is consistent with contemporary preventive approaches, while the relatively lower online-management score highlights an area that may require additional attention in technology-supported educational environments.

At the same time, the study extends existing evidence by examining these dimensions together among secondary school teachers in the Indian context. Rather than treating classroom management as a single behavioural construct, the study demonstrates the value of examining how instructional, relational, behavioural, and digital practices coexist within teachers' reported classroom-management repertoire.

Overall, the evidence suggests that effective classroom management is better understood as the orchestration of teaching, relationships, behaviour, and learning environments than as the exercise of disciplinary authority alone. This interpretation provides a useful foundation for teacher education and future empirical research, particularly in educational systems undergoing rapid curricular and technological transformation.

6. Implications of the Study

The findings have implications for classroom practice, teacher education, school leadership, and educational policy. The most important implication is that classroom management should be positioned within teacher professionalism rather than treated primarily as a disciplinary responsibility. The high ratings for Subject Proficiency, Teacher–Student Relationship, and Behaviour Management, together with the significant contributions of Instructional Competence and Relational Engagement in the regression model, indicate the importance of integrating pedagogical and relational competencies into classroom-management preparation.

6.1 Implications for Teacher Education

Teacher-education programmes should explicitly connect instructional competence with classroom management. Student teachers need opportunities to understand how lesson planning, questioning, classroom interaction, formative assessment, differentiation, and active engagement can prevent many management difficulties. Classroom management should consequently be taught not only as a separate component of teacher preparation but also across pedagogy and practicum experiences.

The importance of relational engagement similarly suggests that teacher education should provide structured opportunities to develop communication, empathy, active listening, conflict resolution, respectful interaction, and inclusive classroom practices. Teacher candidates should be encouraged to understand classroom authority as compatible with supportive teacher–student relationships.

6.2 Implications for School-Based Professional Development

The relatively lower score for Online Classroom Management indicates a potential area for continuing professional development. Professional-development programmes should move beyond training teachers to operate digital platforms and instead focus on the pedagogical management of technology-mediated learning.

Training may include strategies for maintaining online engagement, establishing digital classroom norms, managing asynchronous participation, facilitating online collaboration, providing timely feedback, and integrating digital assessment. Such

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professional learning should be contextualized according to teachers' actual technological environments rather than adopting a uniform model.

6.3 Implications for Behaviour Management

The relatively low rating for Punishment and Reward, together with its small negative coefficient in the regression model, supports greater emphasis on preventive and educationally meaningful approaches to behaviour management. Teachers may benefit from professional development in establishing predictable routines, explicitly teaching behavioural expectations, actively supervising learning, acknowledging appropriate behaviour, and responding proportionately to inappropriate behaviour.

This does not imply that all forms of consequences or reinforcement should be eliminated. Rather, behavioural responses should be situated within a broader framework that emphasizes student engagement, relationships, classroom structure, and learning.

6.4 Implications for School Leadership

School leaders have an important role in creating conditions that support effective classroom management. Professional learning should be sustained rather than limited to one-time workshops. School leadership can support teachers through collaborative planning, peer observation, mentoring, reflective practice, and access to appropriate digital resources.

The observed variation in online classroom management across locality groups also suggests that professional-development planning should be sensitive to contextual conditions. However, because the present study did not directly measure infrastructure or institutional support, specific explanations for the locality differences require further investigation.

6.5 Implications for Educational Policy

At the policy level, the findings support the broader orientation of Indian educational reforms towards learner-centred, competency-based, inclusive, and technology-supported education. The National Education Policy 2020 emphasizes teacher professional development and the meaningful use of technology in education (Ministry of Education, 2020). The National Curriculum Framework for School Education 2023 similarly emphasizes educational practices that support competency development and meaningful learning (National Council of Educational Research and Training, 2023).

The findings suggest that the implementation of these policy priorities should include systematic attention to classroom-management competencies. Policy-level teacher-development initiatives should recognize that the effective implementation of learner-centred and technology-supported pedagogies depends partly on teachers' capacity to organize instruction, sustain relationships, engage students, and manage diverse learning environments.

7. Limitations of the Study

Several limitations should be considered when interpreting the findings.

First, the study used a cross-sectional design. Data were collected at one point in time, which prevents conclusions about temporal ordering or causality. The significant regression coefficients therefore indicate statistical associations rather than causal effects.

Second, the study relied on teacher self-report data. The findings represent teachers' perceptions or reported practices and may not necessarily correspond directly to observed classroom behaviour. Social desirability and response tendencies may have influenced participants' responses.

Third, the instrument included 84 items representing 21 classroom-management strategies and demonstrated strong overall internal consistency ($\alpha = .89$). However, the available analysis does not establish whether all 21 strategies constitute statistically distinct constructs. Future validation research should therefore examine the underlying factor structure of the instrument.

Fourth, the regression model requires cautious interpretation because the predictors and dependent measure appear to represent closely related dimensions of the broader classroom-management construct. Conceptual overlap and common-method variance may partly contribute to the relatively high R^2 value of .62. Consequently, the regression findings should not be interpreted as demonstrating that the three predictors independently cause classroom-management effectiveness.

Fifth, although significant differences were identified according to age and locality for Online Classroom Management, the effect sizes were relatively small. Moreover, the study did not directly measure potentially relevant contextual variables such as access to digital infrastructure, internet connectivity, device availability, institutional technological support, or teachers' exposure to digital professional development. Therefore, these mechanisms cannot be inferred from the locality finding.

Sixth, the available information does not provide sufficient detail regarding the sampling frame, sampling technique, response rate, geographical boundaries of recruitment, or participant inclusion criteria. These details are important for evaluating external validity and should be reported in the final manuscript if available.

Finally, the study focused on secondary school teachers. Consequently, the findings should not automatically be generalized to primary school teachers, higher education faculty, teacher educators, or other educational settings without supporting evidence.

8. Directions for Future Research

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The limitations of the present study provide several directions for future research.

First, future studies should adopt longitudinal designs to examine how teachers' classroom-management practices develop over time and whether changes in instructional competence, relational engagement, and digital competence are associated with subsequent changes in classroom-management outcomes.

Second, research should combine multiple sources of evidence. Teacher self-reports could be supplemented with classroom observations, student perceptions, interviews, and school-level indicators. Such triangulation would reduce reliance on a single method and provide a more comprehensive picture of classroom-management practice.

Third, further research should investigate the psychometric structure of the 84-item instrument. Exploratory and confirmatory factor analyses could establish whether the proposed 21 strategies and broader dimensions are empirically supported. Measurement-invariance analysis could also determine whether the instrument operates equivalently across relevant demographic groups.

Fourth, the significant locality difference in Online Classroom Management warrants more detailed investigation. Future studies could examine digital infrastructure, connectivity, access to devices, school-level technological support, teacher digital competence, and participation in technology-focused professional development. Such research would help explain the contextual mechanisms underlying differences in online classroom management.

Fifth, intervention studies could examine whether targeted professional development in instructional competence, relational engagement, preventive behaviour management, and digital classroom management leads to measurable improvements in classroom practice. Experimental or quasi-experimental designs would provide stronger evidence concerning the effectiveness of specific interventions.

Sixth, future research could examine classroom management across rural, urban, and tribal educational contexts using mixed-method approaches. Qualitative evidence could help identify contextual practices, institutional constraints, culturally responsive strategies, and teachers' lived experiences that may not be captured through standardized questionnaires.

Finally, future research should investigate how classroom management interacts with emerging technologies, including artificial intelligence-supported teaching and assessment. As digital and AI-mediated learning environments expand, classroom-management research will need to address not only physical and online behaviour but also issues of digital participation, responsible technology use, academic integrity, student agency, and teacher oversight.

9. Conclusion

Classroom management is increasingly understood as a multidimensional component of effective teaching rather than as a narrow process of maintaining discipline. The present study contributes to this perspective by examining classroom-management practices among 291 secondary school teachers across instructional, relational, behavioural, online, and punishment-and-reward dimensions.

The findings indicate that Subject Proficiency, Teacher–Student Relationship, and Behaviour Management were the most strongly reported strategies, whereas Online Classroom Management and Punishment and Reward received comparatively lower ratings. Instructional Competence emerged as the strongest positive predictor of the specified classroom-management effectiveness measure, followed by Relational Engagement. Punishment and Reward showed a comparatively small negative statistical association.

The findings also demonstrate statistically significant differences in Online Classroom Management according to age and locality, although the associated effect sizes were small. These results point towards the importance of considering classroom management within its broader professional and contextual environment rather than attributing differences solely to individual teacher characteristics.

The study consequently supports a shift from a discipline-centred conception of classroom management towards an integrated instructional, relational, behavioural, and digitally responsive model. Effective management is not simply about responding to disruption; it involves creating learning environments in which students are engaged, relationships are constructive, expectations are clear, and instructional processes are purposeful.

For teacher education, this perspective has particular significance. Preparing teachers to manage contemporary classrooms requires more than disciplinary techniques. It requires the development of strong instructional competence, relational capacity, preventive behaviour-management skills, and the ability to adapt management practices to digital and diverse educational environments.

At the same time, the cross-sectional and self-report nature of the present study requires cautious interpretation. The findings provide evidence of associations and patterns within the participating sample rather than causal explanations. Future longitudinal, observational, and intervention-based research can build on these findings and establish a stronger evidence base for classroom-management practice.

Ultimately, the study reinforces the proposition that effective classroom management is an integral dimension of teaching quality. It emerges through the interaction of what teachers teach, how they organize learning, how they relate to students, how they respond to behaviour, and how they adapt to changing learning environments.

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