



The Influence of Classroom Climate and Teachers' Social Interaction Skills on Academic Development Mediated by the Family Environment

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Articles Information

Abstrak

Keywords:

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Penelitian ini mengkaji pengaruh iklim kelas dan keterampilan interaksi sosial guru terhadap perkembangan akademik siswa, dengan lingkungan keluarga sebagai mediator. Menggunakan pendekatan kuantitatif asosiatif, data diperoleh dari 118 siswa kelas 6 di 13 SD Kecamatan Kalidawir melalui kuesioner dan dianalisis dengan SEM-PLS. Hasil menunjukkan bahwa iklim kelas dan keterampilan sosial guru berpengaruh positif dan signifikan terhadap perkembangan akademik, baik secara langsung maupun tidak langsung melalui lingkungan keluarga. Temuan ini menegaskan pentingnya menciptakan suasana kelas yang kondusif, guru yang komunikatif, dan dukungan keluarga dalam menunjang prestasi akademik.

Abstact

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This study examines the influence of classroom climate and teachers' social interaction skills on students' academic development, with the family environment as a mediator. Using an associative quantitative approach, data were obtained from 118 sixth-grade students in 13 elementary schools in Kalidawir District through questionnaires and analyzed using SEM-PLS. The results indicate that classroom climate and teachers' social skills have a positive and significant influence on academic development, both directly and indirectly through the family environment. These findings emphasize the importance of creating a conducive classroom atmosphere, communicative teachers, and family support in supporting academic achievement.



INTRODUCTION

Academic development is a fundamental benchmark in evaluating the success of an educational system, as it significantly influences the learning process. Students' academic achievements not only reflect their understanding of educational content but also contribute to their personal and social growth (Hulwani & Aliyyah, 2024).

One of the key competencies required of teachers is the ability to build effective social interactions. These interactions greatly shape the learning experience, as teachers function not only as content deliverers but also as facilitators who play a vital role in developing students' character (Syamsuardi et al., 2024). A teacher's ability to interact with students, colleagues, and parents directly impacts educational quality and the formation of students' social and emotional skills (Istiqomah et al., 2023). Supportive and constructive interactions help foster student communication, collaboration, and social behavior (Wijaya Erik & Nuraini Farah, 2023).

Nevertheless, not all students demonstrate optimal academic performance. A preliminary survey conducted among 15 sixth-grade students in Kalidawir revealed that approximately 65% achieved moderate academic results, 20% performed highly, while 15% were still at a low level (Tulungagung, 2024). Although most students showed academic improvement, some continued to struggle. Factors such as classroom atmosphere, parental involvement, and comprehension challenges are suspected to hinder progress. These conditions highlight the urgent need for strategic interventions to enhance learning outcomes holistically.

To ensure students achieve basic competencies and foundational knowledge, a positive and supportive classroom environment is essential. Classroom climate encompasses the quality of relationships between teachers and students, as well as among students themselves. A positive atmosphere promotes motivation and engagement, whereas a negative one may obstruct learning. According to Atikasari and Ulfa (2021), whether in online or offline settings, a conducive classroom climate significantly impacts students' learning motivation.

This study explores the relationship between classroom climate and teachers' social interaction skills on academic development, with family environment as a mediating factor. This aligns with the perspective of Hasibuan et al. (2020), who emphasized that a learning environment whether at school or home should be equally supportive to foster student enthusiasm and achievement.

Healthy teacher-student relationships foster trust, motivation, and a positive learning experience. Conversely, ineffective communication can lead to misunderstandings and learning disruptions (Ummah, 2019). Positive interaction between teachers and students has been shown to correlate with increased academic success and improved behavior in class (Zhang, 2025).

The family setting also plays a crucial role in shaping students' educational attitudes. Parental support, involvement, and the values instilled at home help students feel more confident and motivated to learn (Aminati, Rokhmaniyah, & Chamdani, 2022).

While many studies have examined these variables independently, few have integrated all four classroom climate, teachers' social interaction skills, family environment, and academic development into a unified model. For instance, Nurrochmah (2024) focused on classroom climate and learning motivation; Hasibuan (2021) on social interaction within families; and Aini & Alfani Hadi (2023) explored the relationship between classroom atmosphere and teaching skills on academic outcomes.

There remains a research gap concerning the role of the family environment as a mediator. Therefore, this study seeks to address that gap by investigating how classroom climate and teachers' social skills affect academic development through the intervening role of family dynamics.

METHOD

This study utilized a quantitative associative approach to examine the relationships among variables. Data were gathered through structured questionnaires distributed to sixth-grade students across various elementary schools in Kalidawir District. A total of 118 respondents were selected using the cluster proportional random sampling technique, ensuring proportional representation across different schools located in the highland areas of Kalidawir to reflect distinct geographical characteristics.

Data analysis was conducted using SmartPLS software, employing the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. This method is particularly suitable for exploring complex relationships in social science research. The analysis aimed to assess both the measurement and structural models, examining the validity, reliability, and predictive accuracy of the proposed constructs (Eliyanti Agus Mokodompit et al., 2023).

The analytical procedures consisted of two stages: (1) Descriptive analysis, which described the data characteristics; and (2) Inferential statistical analysis, which tested the proposed hypotheses. The outer model assessment evaluated the measurement model through indicators such as internal consistency (reliability), convergent validity, and discriminant validity. Meanwhile, the inner model assessed the structural relationships among latent variables using path coefficients, significance levels.

RESULT AND DISCUSSION

This study involved 118 students from 13 elementary schools located in the mountainous regions of Kalidawir District. The selection of this setting was deliberate, considering the distinct geographic and social contexts that may influence learning outcomes. The limited educational resources in such rural areas further underscore the importance of analyzing their academic development needs.

The statistical analysis was conducted in two primary phases. First, the outer model evaluated the measurement instruments for reliability and validity. Second, the inner model examined the relationships

among the latent variables. The primary objective of using the PLS-SEM method was to maximize the R² value, which indicates the explanatory power of the model.

The measurement model analysis confirmed that the instruments used in this study met the required standards for internal consistency, convergent validity, and discriminant validity. Subsequently, the structural model analysis revealed significant direct and indirect effects among variables, supported by path coefficients, effect sizes (f²), and predictive relevance (Q² = 0.249).

Hypothesis Testing Results

Hypothesis testing was conducted using the bootstrapping method in the SmartPLS application. A hypothesis is considered significant if the T-statistics value is greater than 1.96 and the P-value is less than 0.05. The results of the hypothesis testing are as follows:

Table 1. The calculation result

| Hypothesis | Relationship | Path Coefficient | T-Statistics | P-Value | Status |
|------------|--|------------------------|------------------------|------------------------|----------|
| Ha1 | Classroom Climate → Family Environment | 0,437 | 5,825 | 0,000 | Accepted |
| Ha2 | Teachers' Social Skills → Family Environment | 0,417 | 5,255 | 0,000 | Accepted |
| Ha3 | Classroom Climate → Academic Development | 0,279 | 3,678 | 0,000 | Accepted |
| Ha4 | Teachers' Social Skills → Academic Development | 0,331 | 3,711 | 0,000 | Accepted |
| Ha5 | Family Environment → Academic Development | 0,446 | 4,254 | 0,000 | Accepted |
| Ha6 | Classroom Climate & Teachers' Skills → Academic Development | - | 3,076 | 0,002 | Accepted |
| Ha7 | Classroom Climate & Teachers' Skills → Family Environment → Academic Development | X1: 0,124 X2: 0,186 | X1: 5,187 X2: 5,527 | X1: 0,000 X1: 0,000 | Accepted |

Figure

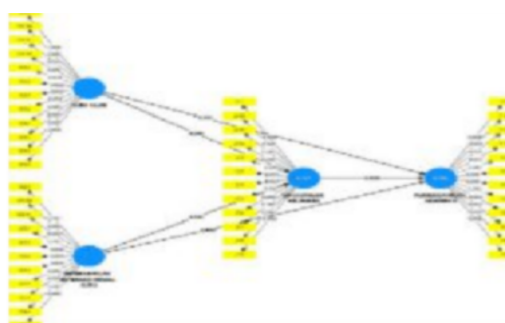


Figure 1. Bootstrapping Results

1. Effect of Classroom Climate on Family Environment

The findings indicate a significant positive impact of classroom climate on the family environment. This supports Bronfenbrenner's (1979) ecological theory, which explains that components within one

microsystem (e.g., school) can influence another (e.g., family) through mesosystem interactions. A conducive classroom climate fosters positive student behaviors that extend into the home, such as improved communication and participation in family routines (Saputri, Eprillison & Amelia, 2024). Previous studies by Hernawati (2024) and Anwar (2022) also confirm that classroom conditions contribute to shaping family dynamics.

2. Effect of Teachers' Social Interaction Skills on Family Environment

Teachers who possess effective communication and social interaction skills tend to become role models for students. These behaviors are often imitated and brought into the family setting. This aligns with Social Learning Theory (Bansae & Hura, 2023), where students learn through observation. Research by Rafiuddin (2024) and Sriastuti et al. (2020) further emphasizes that strong teacher-student-parent connections positively influence students' learning environments at home.

3. Effect of Classroom Climate on Academic Development

A supportive classroom environment has a direct and meaningful influence on academic performance. Positive interactions among students and between students and teachers enhance focus and motivation to learn. Treagust's (1986) Classroom Environment Scale validates the strong relationship between classroom dynamics and academic success. Hermawan (2024) and Nazila (2021) also reported that classroom climate contributes significantly to academic achievement, explaining up to 43% of performance variance.

4. Effect of Teachers' Social Skills on Academic Development

Teachers with strong interpersonal skills can encourage student engagement and comprehension. Zhang (2022) highlighted that positive teacher-student relationships directly affect motivation and academic outcomes. Bahari (2018) and Mursala et al. (2024) also confirmed that teacher social competence enhances student achievement, particularly when reinforced by active parental involvement.

5. Effect of Family Environment on Academic Development

Among the variables examined, the family environment showed the strongest impact on academic development. Emotional support, adequate learning facilities, and parental involvement play critical roles in students' academic performance. The expectancy-value theory (Atkinson & Eccles, 1983) supports this by highlighting the importance of self-belief and perceived task value. Research by Permana (2024), Dewi (2019), and Aini & Lubis (2024) affirmed that a supportive home environment contributes significantly to student success.

6. Combined Direct Effect of Classroom Climate and Teachers' Skills on Academic Development

The combined influence of classroom climate and teachers' social skills demonstrated a significant positive effect on academic achievement. This validates Coleman's (1995) view that classroom dynamics and family social capital including norms and parental involvement are key to learning outcomes. The findings are also supported by Hidayah et al. (2024), Reni & Achmadi (2020), and Karina et al. (2024), all of whom emphasized the synergy between classroom quality and teacher interaction in enhancing academic performance.

7. Indirect Effect Through the Family Environment

This study confirms that the classroom climate and teachers' social skills indirectly impact academic development via the family environment. According to Baron and Kenny's (1986) mediation model, the family environment serves as a full mediator for classroom climate and a partial mediator for teacher interaction. This chain effect aligns with research by Ma & Wei (2022) and Sun et al. (2022), who found that teacher-student interactions and classroom atmosphere indirectly influence learning outcomes through family engagement and student attitudes.

The implication is clear: academic development is not solely determined by school-based factors but is significantly shaped by the collaboration between school and family. Teachers who create a positive classroom climate and communicate effectively help extend educational values into students' homes, reinforcing learning beyond the classroom.

CONCLUSION

This study confirms that both classroom climate and teachers' social interaction skills play crucial roles in shaping students' academic development, either directly or through the mediating role of the family environment. The key conclusions are as follows:

1. Classroom climate positively affects the family environment.

A more supportive and engaging classroom atmosphere contributes to students' more positive perceptions and behaviors at home.

2. Teachers' social interaction skills impact the family environment.

Teachers who effectively communicate and interact with students foster behaviors that students carry into their family dynamics.

3. Classroom climate directly contributes to academic development.

A positive and well-managed classroom enhances student focus, motivation, and learning outcomes.

4. Teachers' social skills significantly influence academic progress.

Teachers who are empathetic and encouraging help improve students' engagement and academic performance.

5. Family environment has the strongest impact.

Emotional support, parental involvement, and a conducive home learning environment play a central role in student achievement.

6. Classroom climate and teachers' interaction skills jointly influence academic outcomes.

These variables, when combined, significantly enhance student achievement.

7. The family environment mediates indirect effects.

It fully mediates the effect of classroom climate and partially mediates the effect of teachers' social skills on academic development, emphasizing the importance of home-school synergy.

These findings underscore that academic development is a product of both in-school and at-home influences. Strengthening both learning environments is essential for fostering student success.

Recommendation:

1. For Elementary School Teachers

Teachers should strive to cultivate a welcoming and supportive classroom climate through open communication, interactive teaching methods, and mutual respect. Continuous development of social and interpersonal skills such as empathy, positive reinforcement, and student motivation strategies is essential for strengthening the connection between home and school.

2. For Parents or Guardians

Parents are encouraged to take an active role in their children's education by creating a structured and supportive home learning environment, engaging in regular communication with teachers, and participating in school activities.

3. For Schools and Education Policymakers

Schools should facilitate training and workshops aimed at improving teachers' communication and classroom management skills. Local education authorities in Kalidawir District may also utilize these research insights to design policies that promote collaboration between schools and families.

4. For Future Researchers

This study is limited to sixth-grade students in Kalidawir District. Future research could explore broader educational levels or different regions to enhance generalizability. Additional variables such as learning motivation, school leadership, or school culture could also be incorporated to deepen understanding of the factors influencing academic development.

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