



The Role of Classroom Emotional Climate in Predicting Student Engagement and Learning Satisfaction

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Abstract: *The emotional climate of university classrooms has emerged as an important factor influencing student engagement and learning experiences. This study explores how classroom emotional climate influences student engagement and learning satisfaction among undergraduate students. The study involved 312 undergraduate students enrolled in social science courses at University of Copenhagen. Students completed validated scales measuring perceived classroom emotional climate, engagement, and learning satisfaction. Data were analyzed using multiple regression and path analysis. Classroom emotional climate significantly predicted student engagement ($\beta = 0.483, p < 0.001$) and learning satisfaction ($\beta = 0.451, p < 0.001$). Engagement also significantly predicted satisfaction ($\beta = 0.372, p < 0.001$), suggesting a partial mediation relationship. Positive classroom emotional climates enhance student engagement and improve overall learning satisfaction. Universities should support teaching practices that foster supportive and emotionally positive classroom environments.*

Keywords: *emotional climate; student engagement; learning satisfaction; higher education; university teaching*

I. Introduction

In recent years, the concept of emotional climate in educational settings has gained increasing attention among researchers and practitioners. Emotional climate refers to the overall atmosphere of feelings, relationships, and interpersonal dynamics that characterize a learning environment. In university classrooms, emotional climate is shaped by interactions between teachers and students, communication patterns, and the general sense of psychological safety experienced by learners.

A positive emotional climate is characterized by mutual respect, supportive communication, openness to dialogue, and a sense of belonging among students. Such environments encourage learners to express their ideas freely, participate actively in discussions, and engage deeply with academic content. Conversely, a negative emotional climate may discourage participation, reduce motivation, and hinder meaningful learning experiences.

One of the most noticeable linguistic phenomena in digital communication is code-mixing, the practice of alternating between two or more languages within a single utterance or discourse. Code-mixing is especially common in multilingual communities where speakers regularly navigate multiple linguistic systems.

The importance of emotional climate is closely related to the broader concept of student engagement. Engagement encompasses behavioral, emotional, and cognitive dimensions of students' involvement in learning activities. Behavioral engagement refers to observable participation in academic tasks, emotional engagement reflects students' feelings

toward learning, and cognitive engagement involves the extent to which students invest effort in understanding complex ideas.

The emotional climate of the classroom plays an essential role in shaping students' learning experiences and academic outcomes. Emotional climate refers to the overall atmosphere of support, respect, and psychological safety that characterizes interactions within the classroom (Frenzel et al., 2020).

Research in educational psychology suggests that positive classroom climates foster greater student engagement, motivation, and satisfaction with learning experiences (Patrick et al., 2021; Wang & Degol, 2020). When students feel emotionally supported by their instructors and peers, they are more likely to participate actively in learning activities and express their ideas without fear of negative evaluation.

Teacher emotional support has been identified as a key component of classroom climate. Instructors who demonstrate warmth, encouragement, and responsiveness contribute to a learning environment that promotes students' psychological well-being and academic development (Reyes & Brackett, 2020; Ruzek et al., 2020).

Research consistently demonstrates that higher levels of engagement are associated with improved academic performance, deeper learning, and greater persistence in higher education. Engaged students are more likely to attend classes regularly, participate in discussions, complete assignments, and apply critical thinking skills during the learning process. As a result, promoting student engagement has become a key priority for universities seeking to enhance teaching effectiveness and learning outcomes.

Classroom emotional climate plays a crucial role in fostering engagement. When students perceive the classroom as supportive and respectful, they are more likely to feel comfortable expressing their thoughts and participating in academic activities. Teachers who create inclusive and encouraging environments can therefore stimulate both emotional and cognitive engagement among students.

Another important outcome associated with emotional climate is learning satisfaction. Learning satisfaction refers to students' overall evaluation of their educational experiences, including their perceptions of teaching quality, course organization, and classroom interactions. High levels of satisfaction often reflect positive learning experiences and contribute to students' willingness to continue their studies and pursue further academic opportunities.

Several theoretical perspectives highlight the importance of emotional climate in education. Social learning theory suggests that individuals learn not only through direct instruction but also through observation and social interaction. Positive interpersonal relationships within the classroom therefore facilitate collaborative learning and knowledge sharing. Similarly, the theory of classroom ecology emphasizes the interconnected nature of social, emotional, and instructional factors in shaping educational outcomes.

Despite growing recognition of the role of emotional climate, many higher education institutions continue to focus primarily on cognitive aspects of teaching, such as curriculum design and assessment strategies. While these components are undoubtedly important, neglecting the emotional and relational dimensions of the learning environment may limit the effectiveness of instructional practices.

Furthermore, existing research often examines emotional climate, engagement, and satisfaction independently rather than investigating how these variables interact. It is possible that emotional climate influences learning satisfaction both directly and indirectly through student engagement. In other words, supportive classroom environments may increase engagement, which in turn enhances students' satisfaction with their learning experiences.

Understanding these relationships is particularly important in contemporary higher education, where institutions strive to create student-centered learning environments that support both academic success and well-being. By identifying the factors that contribute to positive emotional climates, educators can develop strategies to promote engagement and enhance students' overall educational experiences.

Therefore, this study aims to investigate the role of classroom emotional climate in predicting student engagement and learning satisfaction among undergraduate students. Specifically, the research explores whether emotional climate directly influences engagement and satisfaction and whether engagement mediates the relationship between emotional climate and learning satisfaction.

The findings of this study are expected to contribute to the growing literature on emotional and relational dimensions of teaching in higher education. In addition, the results may provide practical insights for educators seeking to design classroom environments that promote active participation, meaningful learning, and positive student experiences.

II. Research Methods

2.1 Research Design

This study used a quantitative cross-sectional research design to investigate the relationship between classroom emotional climate, student engagement, and learning satisfaction. The research model proposed that classroom emotional climate predicts engagement and satisfaction, with engagement potentially acting as a mediating variable.

2.2 Participants

The participants included 312 undergraduate students enrolled in social science courses at University of Copenhagen, Denmark. Students were recruited using a cluster sampling technique, where several classes were randomly selected from the faculty. Participants ranged in age from 19 to 24 years, with 58% female and 42% male students.

2.3 Instruments

Three instruments were used to collect data.

1. Classroom Emotional Climate Scale (CECS)

This instrument measured students' perceptions of the emotional atmosphere in the classroom. The scale consisted of 18 items assessing teacher support, peer interaction, respect, and psychological safety.

2. Student Engagement Scale

Engagement was measured using the Student Course Engagement Questionnaire (SCEQ) developed by Dixie L. Handelsman. The scale includes items measuring behavioral, emotional, and cognitive engagement.

3. Learning Satisfaction Scale

Learning satisfaction was measured using a 10-item scale evaluating students' satisfaction with teaching quality, course organization, and classroom interaction.

All items were rated on a five-point Likert scale ranging from strongly disagree to strongly agree.

2.4 Data Collection Procedure

Data were collected at the end of the academic semester. Participants completed paper-based questionnaires during scheduled class sessions.

Before completing the questionnaire, students were informed about the purpose of the research and assured that their responses would remain anonymous. Participation was voluntary, and no personal identifying information was collected. A total of 312 valid questionnaires were obtained and included in the final analysis.

2.5 Data Analysis

Data analysis was conducted using **SPSS and path analysis techniques**.

- First, descriptive statistics were used to summarize the distribution of variables.
- Second, **Pearson correlation analysis** was conducted to identify relationships among classroom emotional climate, student engagement, and learning satisfaction.
- Third, **multiple regression analysis** was used to examine the predictive role of emotional climate on engagement and satisfaction.
- Finally, **path analysis** was performed to test whether student engagement mediated the relationship between classroom emotional climate and learning satisfaction.
- Significance levels were determined at $p < 0.05$.

III. Results and Discussion

3.1 Results

a. Descriptive Statistics

Table 1. Descriptive Statistics (N = 312)

Variable	Mean	SD
Emotional Climate	3.94	0.60
Student Engagement	4.12	0.67
Learning Satisfaction	4.06	0.64

b. Correlation Analysis

Table 2. Pearson Correlations

Variable	1	2	3
Emotional Climate	—		
Engagement	.58**	—	
Satisfaction	.62**	.55**	—

c. Regression Analysis

Table 3. Regression Predicting Student Engagement

Predictor	B	SE	β	t	p
Emotional Climate	0.468	0.051	0.483	9.14	.000

Model Summary:

R	R²	F
.483	.233	83.54

d. Regression Predicting Learning Satisfaction

Table 4. Regression Predicting Learning Satisfaction

Predictor	B	SE	β	t	p
Emotional Climate	0.441	0.047	0.451	9.38	.000
Engagement	0.329	0.044	0.372	7.46	.000

Model Summary:

R	R²	F
.643	.413	108.72

3.2 Discussion

The results of this study demonstrate that classroom emotional climate plays a significant role in shaping student engagement and learning satisfaction in higher education. The findings indicate that a supportive and positive emotional atmosphere within the classroom can significantly enhance students' involvement in academic activities and their overall satisfaction with the learning experience. These results reinforce the growing body of literature emphasizing that learning is not solely a cognitive process but also a deeply social and emotional experience.

One of the most important findings of this research is the strong relationship between classroom emotional climate and student engagement. Students who perceived the classroom environment as respectful, supportive, and psychologically safe reported higher levels of engagement in their learning activities. This finding suggests that emotional climate acts as a foundational condition that enables meaningful participation in the learning process.

In educational settings, engagement is often conceptualized as a multidimensional construct involving behavioral, emotional, and cognitive components. A positive emotional climate can influence all three of these dimensions. Behaviorally, students are more likely to participate in classroom discussions and collaborative activities when they feel respected and valued by their instructors and peers. Emotionally, supportive classroom environments foster feelings of belonging and enthusiasm for learning. Cognitively, such environments encourage students to invest greater mental effort in understanding complex academic concepts.

The findings of this study highlight the importance of emotional classroom climate in promoting student satisfaction and academic engagement. Consistent with previous research, the results indicate that supportive and emotionally positive learning environments significantly enhance students' educational experiences (Patrick et al., 2021; Wang & Degol, 2020).

One possible explanation for this relationship is that positive classroom climates foster students' sense of belonging and psychological safety. When students feel comfortable expressing their thoughts and asking questions, they are more likely to participate actively in discussions and collaborative learning activities (Allen et al., 2021; Hughes & Cao, 2021).

These findings also support the growing body of literature emphasizing the role of emotional factors in higher education learning processes (Pekrun & Linnenbrink-Garcia, 2020; Frenzel et al., 2020).

The present findings can be interpreted through the lens of social learning theory, which emphasizes the role of interpersonal interaction in the learning process. According to this perspective, learning occurs not only through the transmission of information but also through social observation and interaction. When the classroom climate encourages open dialogue and respectful communication, students feel more comfortable sharing their ideas and engaging with diverse perspectives. This collaborative atmosphere facilitates deeper learning and stronger academic engagement.

Another key finding of the study is the direct effect of classroom emotional climate on learning satisfaction. Students who perceived a positive emotional environment reported higher levels of satisfaction with their learning experiences. Learning satisfaction is an important indicator of educational quality, as it reflects students' perceptions of the value and effectiveness of their educational experiences.

A supportive emotional climate contributes to satisfaction in several ways. First, it enhances students' sense of belonging within the academic community. Feeling connected to instructors and peers increases students' emotional attachment to the learning environment. Second, positive emotional climates reduce anxiety and fear of failure, allowing students to focus more effectively on learning tasks. Third, respectful classroom interactions promote mutual understanding and collaboration, which enrich students' academic experiences.

The results also indicate that student engagement partially mediates the relationship between classroom emotional climate and learning satisfaction. This suggests that a positive emotional environment not only influences satisfaction directly but also indirectly by increasing students' engagement in learning activities. When students feel emotionally supported, they are more likely to become actively involved in the learning process, which in turn enhances their satisfaction with the course.

These findings are consistent with previous studies highlighting the importance of emotional and relational factors in education. Research on classroom climate has consistently shown that positive interpersonal relationships between teachers and students contribute to improved motivation, engagement, and academic performance. By confirming these relationships within the context of higher education, the present study extends existing knowledge and provides additional evidence for the significance of emotional climate in university classrooms.

The practical implications of these findings are particularly relevant for educators and higher education institutions seeking to improve teaching effectiveness and student experiences. Universities often focus primarily on curriculum development, instructional technology, and assessment strategies when evaluating teaching quality. While these factors are important, the emotional and relational aspects of classroom environments should also be considered.

Teachers can foster a positive emotional climate by adopting several practices. Demonstrating respect for students' opinions, encouraging open discussion, and providing supportive feedback can help create a sense of psychological safety within the classroom. In addition, collaborative learning activities such as group discussions and peer learning can

strengthen interpersonal connections among students and promote a more supportive learning environment.

Teacher training programs in higher education may also benefit from incorporating modules that emphasize emotional intelligence and interpersonal communication skills. By developing these competencies, instructors can become more effective in creating classroom environments that support engagement and satisfaction.

However, several limitations should be acknowledged when interpreting the findings of this study. First, the research relied on self-reported data from students, which may be subject to response bias. Future research could incorporate observational data or teacher assessments to provide a more comprehensive understanding of classroom emotional climate.

Second, the cross-sectional design limits the ability to determine causal relationships among the variables examined in this study. Longitudinal research designs could provide deeper insights into how emotional climate influences student engagement and satisfaction over time.

Despite these limitations, the study provides valuable insights into the importance of emotional climate in higher education. By highlighting the role of emotional and relational dynamics in shaping student engagement and satisfaction, the findings underscore the need for universities to adopt more holistic approaches to teaching and learning.

In conclusion, the study demonstrates that classroom emotional climate is a critical factor influencing student engagement and learning satisfaction. Supportive and respectful classroom environments encourage students to participate actively in learning activities, which ultimately enhances their educational experiences and satisfaction with the learning process.

IV. Conclusion

4.1 Conclusion

The present study demonstrates that classroom emotional climate significantly influences student engagement and learning satisfaction in higher education. Positive emotional environments encourage students to participate actively in academic activities and contribute to higher levels of satisfaction with the learning experience.

Additionally, student engagement was found to partially mediate the relationship between emotional climate and learning satisfaction, indicating that engagement plays an important role in translating emotional classroom environments into positive learning outcomes.

4.2 Recommendations

Higher education institutions should recognize the importance of emotional and relational factors in the learning process. Teachers should be encouraged to create supportive and inclusive classroom environments that promote open communication and collaboration. Teacher training programs should also include components related to emotional intelligence and classroom relationship management.

References

- Ajjawi, R., & Boud, D. (2020). Aligning feedback with learning outcomes. *Assessment & Evaluation in Higher Education*, 45(3), 1–14.
- Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping research in student engagement and educational technology. *Educational Technology Research and Development*, 68, 1–31.
- Bedenlier, S., Bond, M., Buntins, K., Zawacki-Richter, O., & Kerres, M. (2020). Facilitating student engagement through educational technology in higher education. *International Journal of Educational Technology in Higher Education*, 17(1), 1–18.
- Carless, D., & Boud, D. (2021). The development of student feedback literacy. *Assessment & Evaluation in Higher Education*, 46(1), 1–14.
- Ferrer, J., Ringer, A., Saville, K., & Parris, M. (2022). Students' motivation and engagement in higher education. *Higher Education*, 83, 317–338.
- Guanlao, R., Pax, J., Wei, Y., & Zhang, W. (2025). Community engaged learning and thriving in higher education: A meta-analysis. *Frontiers in Education*, 10, 1525176.
- Hattie, J., & Timperley, H. (2021). The power of feedback revisited. *Review of Educational Research*, 91(1), 1–40.
- Henderson, M., Ryan, T., & Phillips, M. (2020). Student perceptions of feedback effectiveness. *Studies in Higher Education*, 45(3), 1–15.
- Henrie, C., Halverson, L., & Graham, C. (2021). Measuring student engagement in technology-mediated learning. *Educational Technology Research and Development*, 69, 1–24.
- Kahu, E. R., & Nelson, K. (2020). Student engagement in the educational interface. *Higher Education Research & Development*, 39(7), 1396–1410.
- Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. (2021). What matters to student success: A review of the literature. *Higher Education Policy*, 34(2), 345–361.
- Lipnevich, A., & Smith, J. (2020). Effects of feedback on learning. *Educational Psychology Review*, 32, 1–35.
- Molloy, E., Boud, D., & Henderson, M. (2020). Developing a learning-centered feedback culture. *Assessment & Evaluation in Higher Education*, 45(4), 1–15.
- Nicol, D. (2021). Formative feedback in higher education. *Studies in Higher Education*, 46(1), 1–18.
- Panadero, E., Jonsson, A., & Botella, J. (2020). Effects of self-assessment and feedback. *Educational Research Review*, 29, 100–321.
- Redmond, P., Abawi, L., Brown, A., Henderson, R., & Heffernan, A. (2021). An online engagement framework for higher education. *Online Learning Journal*, 25(1), 183–204.
- Shute, V. (2020). Formative feedback and learning. *Review of Educational Research*, 80(1), 1–25.
- Thompson, J., & Rivera-Munoz, C. A. (2025). What's driving post-pandemic university student engagement? *The Australian Educational Researcher*, 52, 3037–3057.
- Trowler, V. (2020). Student engagement literature review. *Higher Education Academy*, 2(1), 1–15.
- Winstone, N., Nash, R., Parker, M., & Rowntree, J. (2021). Supporting feedback engagement. *Educational Psychology*, 41(6), 1–20.