

Students' Perceptions of a Teacher's Subject Competence and Interpersonal Classroom Climate in Higher Education: A Correlational Study

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Abstract

This study explores students' perceptions of teacher subject competence and interpersonal classroom climate in higher education. The study employed a quantitative cross-sectional survey design. Data were collected from 96 students using a structured Google Form. The questionnaire consisted of 12 items on a seven-point Likert scale. Perceived Subject Competence was measured with 7 items and Perceived Interpersonal Classroom Climate was measured with 5 items. Data analysis was done using descriptive statistics, Cronbach's Alpha, Pearson correlation and simple linear regression. The results showed that students viewed teachers positively on both dimensions. Reliability analysis revealed that Perceived Subject Competence and Perceived Interpersonal Classroom Climate had high internal consistency with Cronbach's Alpha values of 0.982 and 0.983 respectively. Pearson correlation analysis showed a very strong positive relationship between the two constructs. The regression analysis also revealed that Perceived Subject Competence significantly predicted Perceived Interpersonal Classroom Climate. Because the data used in the study are based on a cross-sectional perception survey, the findings should be viewed as measures of statistical association rather than causal effect. Thus, the results indicate that students who evaluate teachers as knowledgeable, clear, and academically competent are likely to see teachers as supportive, compassionate, and able to keep a positive classroom environment. The study concludes that the effectiveness of higher education teachers should be understood in both academic and interpersonal dimensions.

Keywords: Teacher Effectiveness; Subject Competence; Interpersonal Classroom Climate; Student Perception; Higher Education; Student Feedback; Teaching Quality

1. Introduction

Teaching effectiveness in higher education is a function of academic and interpersonal dimensions. Meaningful classroom instruction presupposes the teacher's competence in the subject matter. It allows the teacher to explain ideas, organize knowledge, answer students' questions, and connect course content to practical situations. Also teacher communication, approachability and classroom climate influence students' learning experience. More recent work on pedagogical competence in higher education considers teaching competence to be a combination of knowledge, skills and attitudes, rather than just subject knowledge (Moreira et al., 2023).

Students' perceptions are important in the evaluation of teaching because students are the direct recipients of classroom instruction, teacher behavior, and the learning environment. Student evaluation of teaching is a common practice in higher education, but it should be interpreted with caution since ratings are based on perceptions and potentially influenced by contextual and measurement factors (Marsh & Roche, 1997; Quansah et al., 2024). Therefore, student feedback should be viewed as one piece of evidence about teaching quality, rather than a comprehensive measure of teacher effectiveness.

One of the most visible features students use to judge their teachers is subject competence. Students are more likely to have positive attitudes to teachers who have command of the subject, explain ideas clearly, keep up-to-date in their field and give practical examples. Classroom instruction, however, is not just about the transmission of content. Students are also responsive to the teacher's interpersonal behavior, emotional support, openness and classroom climate established in teaching. Research on instructional quality and teacher-student interaction reveals that students' perceptions often include both cognitive and relational aspects of teaching (Wisniewski et al., 2022; Aldrup et al., 2022).

This is also relevant in the context of Indian higher education, as recent educational policy is focusing on holistic and learner-centred education. The National Education Policy 2020 emphasizes the need to develop intellectual, social, emotional and moral capacities among learners through a more holistic approach to education (Government of India, 2020). This approach requires teachers to combine subject knowledge with classroom practices that foster engagement, confidence and participation.

Previous studies have studied student evaluation of teaching, subject competence, instruction quality and teacher student relationship, but there is still a lack of simple empirical evidence of how students see the relationship between teacher subject competence and interpersonal classroom climate. Many feedback forms ask students to evaluate academic and interpersonal aspects of teaching, but these dimensions are often reported separately without exploring the statistical relationship. This study aims to bridge this gap by examining student perceptions of teacher subject competence and interpersonal classroom climate in higher education using a 12-item Likert-scale feedback form.

1.1 Research Objectives

The objectives of the study are:

1. To investigate how students perceive their teachers' subject competence in higher education.
2. To examine students' perceptions of teachers' interpersonal classroom climate in higher education.
3. To investigate the relationship between perceived subject competence and perceived interpersonal classroom climate.
4. To determine whether perceived subject competence statistically predicts perceived interpersonal classroom climate.

1.2 Research Questions

This study is guided by the following research questions:

1. How do students perceive their teachers' subject competence in higher education?
2. How do students view the interpersonal classroom climate created by their teachers in higher education?
3. Is there a significant relationship between students' perceptions of teachers' subject competence and their perceptions of the interpersonal classroom climate?
4. To what extent does perceived subject competence statistically predict perceived interpersonal classroom climate?

1.3 Research Hypotheses

Based on the objectives and research questions, the following hypotheses are proposed:

H₀₁: There is no significant relationship between perceived subject competence and perceived interpersonal classroom climate.

H₁₁: There is a significant positive relationship between perceived subject competence and perceived interpersonal classroom climate.

H₀₂: Perceived subject competence does not significantly predict perceived interpersonal classroom climate.

H₁₂: Perceived subject competence significantly predicts perceived interpersonal classroom climate.

2. Literature Review

2.1 Student Evaluation of Teaching in Higher Education

Student evaluation of teaching is now a widely used tool for gaining insights into classroom experiences in higher education. This approach enables institutions to gather feedback on teaching methods, communication, organization, and the overall learning environment from the students themselves. However, it is important to recognize that student ratings reflect perceptions and should be viewed as one aspect of evaluating teaching effectiveness, rather than a comprehensive measure. Marsh and Roche (1997) contended that student evaluations can be useful if used cautiously, especially with regard to validity, possible bias, and the purpose of the ratings. Sporeen et al. (2013) investigated the validity of student evaluation of teaching and concluded that evaluations are still useful but should be interpreted with methodological caution.

The literature also suggests that student evaluations may be valid measures of specific dimensions of teaching as well as a more general overall impression of the teacher. Some teaching dimensions are strongly related to an overall perception of teaching quality, and therefore student ratings may be viewed from multidimensional and unidimensional perspectives (Apodaca and Grad, 2005). This is pertinent for research based on short feedback forms where items on knowledge, clarity and classroom behaviour may be statistically related because students often experience teaching as an integrated experience.

2.2 Subject Competence and Instructional Clarity

Subject competence is a key to effective teaching as it enables teachers to explain concepts correctly, answer questions and link theory with practice. In higher education, students usually expect faculty to be experts in their field and to organize content in a way that helps them understand it. Biggs (1996) emphasized the importance of congruence between learning activities, teaching methods and intended learning outcomes in university teaching. This suggests that knowledge alone is not sufficient unless it is communicated through well-structured instruction.

From the student's point of view, instructional clarity is one of the most obvious manifestations of subject competence. Titsworth et al. (2015) found through two meta-analyses that teacher clarity is positively associated with student learning, particularly affective learning. Clear explanations, well-organized presentations, and meaningful examples help students follow the course content and develop confidence in the learning process. Feldman (1989) further showed that certain instructional dimensions in student ratings are associated with students' perceptions of teaching quality and achievement-related outcomes.

2.3 Interpersonal Qualities and Classroom Climate

Teaching is not only a cognitive activity, but also a relational practice. How teachers communicate, respond, encourage participation, and manage the emotional tone of the class affect the classroom experience for students. Delaney et al. (2010) found in higher education that students associate effective teaching with positive characteristics such as respect, enthusiasm, approachability, fairness, communication and knowledge. These qualities suggest that students care about academic competence and interpersonal behavior in evaluating teaching effectiveness.

The significance of interpersonal classroom behaviour is also backed up by research into teacher immediacy. Witt et al. (2004) found that there is a strong relationship between teacher immediacy and students' attitudes and perceptions of learning. Immediacy behaviours, such as supportive communication and less psychological distance, can help students feel more comfortable and engaged in the classroom. In this respect, the interpersonal classroom climate reflects the extent to which students experience the teacher as supportive, approachable, and emotionally present.

Student engagement is also related to positive teacher-student relationships. Cornelius-White (2007) found in a meta-analysis that learner-centred teacher-student relationships are associated with positive student outcomes. Similarly, Roorda et al. (2011) found that affective teacher-student relationships relate to students' school engagement and

achievement. These studies, though not restricted to higher education, provide a solid foundation for understanding the importance of interpersonal climate in students' evaluation of teachers.

2.4 Relationship Between Subject Competence and Interpersonal Classroom Climate

The relationship between perceived subject competence and perceived interpersonal classroom climate can be understood through the integrated nature of classroom experience. A teacher who explains clearly, answers questions confidently, and connects content with practical examples may also be perceived as more supportive and effective in interaction. At the same time, a positive classroom climate may strengthen students' overall impression of the teacher's competence. Therefore, these two dimensions may be empirically related even though they represent different aspects of teaching.

This link too is consistent with research on the dimensionality of student ratings. Student evaluations often include multiple dimensions (e.g. organization, clarity, interaction, enthusiasm, fairness), but these may not be fully independent. Apodaca and Grad (2005) suggested that student evaluations may contain some specific dimensions and a general factor of teaching quality. This implies that students may judge teachers based on a global impression of academic and interpersonal experiences.

2.5 Research Gap

Previous research has examined student evaluation of teaching, instructional clarity, teacher immediacy, and teacher-student relationships. However, less attention has been given to the statistical association between perceived subject competence and interpersonal classroom climate in small-scale higher education feedback studies. Many feedback forms include both academic and interpersonal items, but these dimensions are often reported descriptively without examining their relationship. This study addresses this gap by analyzing students' responses to a 12-item feedback scale through descriptive statistics, reliability analysis, correlation, and simple linear regression.

3. Research Methodology

3.1 Research Design

This study used a quantitative research design to explore students' perceptions of teacher subject competence and the interpersonal classroom climate in higher education. A cross-sectional survey was chosen, as data were collected from participants at a single point in time. This design was well-suited to the study's goals: describing students' perceptions and analyzing the statistical relationship between two perception-based constructs.

3.2 Population and Sample

The target population for this study was students enrolled in higher education. Students were chosen as respondents because they have direct experience with classroom teaching, teacher communication, and the overall learning environment. A total of 96 valid responses were obtained using convenience sampling, based on participants' accessibility and willingness to take part. While this sampling method may limit the generalizability of the results, it was deemed appropriate for this perception-based study.

3.3 Research Instrument

Data were collected using a structured questionnaire developed as a Google Form. The questionnaire consisted of 12 items on a seven-point Likert scale, from 1 = Strongly Disagree to 7 = Strongly Agree. The items were designed to measure students' perceptions of their teacher's academic competence and interpersonal classroom behavior.

The questionnaire was divided into two major constructs. The first construct, Perceived Subject Competence, consisted of seven items related to subject knowledge, subject understanding, clarity of explanation, awareness of recent

developments, depth of comprehension, broad perspective, and practical explanation. The second construct, Perceived Interpersonal Classroom Climate, included five items on openness, dedication, compassion, positive interaction, and the classroom environment. The items were couched in terms of “my teacher,” and respondents were requested to indicate their perceptions of the teacher in question, as per their classroom experience.

3.4 Variables of the Study

The study involved two main variables.

The Perceived Subject Competence was taken as the independent variable. It was measured by seven items of the questionnaire. A composite score was computed as the average of these seven items.

The dependent variable was Perceived Interpersonal Classroom Climate. Five items of the questionnaire were used to assess it. A composite score was calculated from the mean of these five items.

3.5 Data Collection Procedure

Data were collected through an online Google form. Respondents were asked to read each statement carefully and to select the response that best reflected their perception. Participation was voluntary and responses were collected for academic research purposes only. The respondents filled out the form with respect to the teacher in whose classroom they had experienced teaching. Data were collected, and responses were coded and prepared for statistical analysis.

3.6 Data Analysis Techniques

The data collected were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were employed to summarize the students' responses to each item, including the mean and standard deviation. Internal consistency of the two constructs was assessed using Cronbach's Alpha.

The strength and direction of the relationship between perceived subject competence and perceived interpersonal classroom climate was examined using Pearson correlation analysis. Simple linear regression was then performed to assess whether perceived subject competence was a statistically significant predictor of perceived interpersonal classroom climate. The level of statistical significance was 0.05.

3.7 Ethical Considerations

The study adhered to fundamental ethical principles of educational research. Participation was voluntary and respondents were not requested to provide any personally identifiable information. The answers were analyzed in aggregate, and the data were used only for the purpose of this study.

4. Results and Analysis

4.1 Reliability Analysis

Cronbach's Alpha was employed to assess the internal consistency of the two constructs in this study. The first construct, Perceived Subject Competence, included seven items, while the second construct, Perceived Interpersonal Classroom Climate, comprised five items.

Table 1. Reliability Statistics

Construct	Number of Items	Cronbach's Alpha	Interpretation
Perceived Subject Competence	7	0.982	Highly reliable
Perceived Interpersonal Classroom Climate	5	0.983	Highly reliable

The results indicated that both constructs demonstrated high internal consistency, with Cronbach's Alpha values of 0.982 for Perceived Subject Competence and 0.983 for Perceived Interpersonal Classroom Climate. Since both values exceed the commonly accepted threshold of 0.70, the questionnaire was considered reliable for further analysis. However, such high alpha values may also suggest a degree of overlap or redundancy among the items.

4.2 Descriptive Statistics

Descriptive statistics were used to analyze students' responses to the twelve questionnaire items. The mean and standard deviation for each item are summarized in Table 2.

Table 2. Descriptive Statistics of Questionnaire Items

Item	Mean	Standard Deviation
Teacher has deep knowledge of the subject area	6.09	1.742
Teacher has far-reaching understanding of the subject	5.94	1.902
Teacher explains concepts clearly	6.09	1.813
Teacher is aware of new changes in the subject	6.08	1.822
Teacher has deep contemplation of the subject	6.07	1.819
Teacher has a broad view of the subject	5.89	1.897
Teacher explains the practical aspects of the subject	6.01	1.821
Teacher accepts mistakes easily	5.90	1.911
Teacher is devoted/dedicated	5.98	1.812
Teacher is compassionate	6.11	1.874
Students feel positive after meeting the teacher	6.08	1.816
Teacher creates a happy classroom environment	6.16	1.779

As all mean scores exceeded 5.80, the results suggest that students generally expressed a high level of agreement with the questionnaire items.

4.3 Descriptive Statistics of Main Constructs

Composite scores for each construct were determined by averaging the responses to their respective items.

Table 3. Descriptive Statistics of Main Constructs

Construct	Mean	Standard Deviation
Perceived Subject Competence	6.03	1.738
Perceived Interpersonal Classroom Climate	6.05	1.780

Both constructs showed high mean scores, reflecting positive student perceptions of subject competence and the interpersonal classroom climate.

4.4 Pearson Correlation Analysis

A Pearson correlation analysis was performed to explore the relationship between both variables.

Table 4. Correlation Between Perceived Subject Competence and Perceived Interpersonal Classroom Climate

Variables	Perceived Subject Competence	Perceived Interpersonal Classroom Climate
Perceived Subject Competence	1.000	0.976**
Perceived Interpersonal Classroom Climate	0.976**	1.000

Note. $p < 0.001$

The correlation coefficient between Perceived Subject Competence and Perceived Interpersonal Classroom Climate was 0.976, indicating a very strong positive relationship. This correlation was statistically significant at the 0.001 level. In other words, students who rated teachers highly for subject competence also tended to give high ratings for interpersonal classroom climate.

4.5 Regression Analysis

A simple linear regression analysis was conducted to determine whether Perceived Subject Competence is a significant predictor of Perceived Interpersonal Classroom Climate.

Table 5. Model Summary

R	R ²	Adjusted R ²	Standard Error of the Estimate
0.976	0.952	0.951	0.394

The model summary revealed an R² value of 0.952, meaning that 95.2% of the variance in Perceived Interpersonal Classroom Climate was explained by Perceived Subject Competence. This result demonstrates a strong statistical association between the two perception-based constructs.

Table 6. ANOVA Results

Model	F	Sig.
Regression	1848.280	< 0.001

The ANOVA results showed that the regression model was statistically significant ($F = 1848.280$, $p < 0.001$). This finding confirms that Perceived Subject Competence is a significant predictor of Perceived Interpersonal Classroom Climate.

Table 7. Regression Coefficients

Predictor	B	Standardized Beta	t	Sig.
Constant	0.027	—	0.186	0.853
Perceived Subject Competence	0.999	0.976	42.992	< 0.001

The regression coefficient for Perceived Subject Competence was positive and statistically significant. The standardized beta value was 0.976, indicating a strong positive predictive relationship. The regression equation is presented below:

$$\text{Perceived Interpersonal Classroom Climate} = 0.027 + 0.999 \times \text{Perceived Subject Competence}$$

This result suggests that an increase in students' perception of teacher subject competence is associated with an increase in their perception of interpersonal classroom climate.

4.6 Hypothesis Testing

The first hypothesis examined the relationship between Perceived Subject Competence and Perceived Interpersonal Classroom Climate. The correlation analysis revealed a strong, statistically significant relationship between the two constructs ($r = 0.976$, $p < 0.001$). As a result, the null hypothesis was rejected in favor of the alternative hypothesis. The second hypothesis tested whether Perceived Subject Competence predicts Perceived Interpersonal Classroom Climate. Regression analysis confirmed that Perceived Subject Competence is a significant predictor ($\beta = 0.976$, $p < 0.001$), leading to the rejection of the null hypothesis and acceptance of the alternative. Overall, these findings show that students' perceptions of teacher subject competence are strongly linked to their perceptions of the interpersonal classroom climate.

5. Discussion

In the present study, students' perceptions of teacher subject competence and interpersonal classroom climate in higher education were examined. The results point to a positive evaluation of teachers by students in both dimensions, which means that both academic and interpersonal aspects of teaching matter in the students' evaluation of the classroom experience. Reliability results showed good internal consistency for both constructs. Cronbach's Alpha for Perceived Subject Competence was 0.982 while that for Perceived Interpersonal Classroom Climate was 0.983. These values suggest that the items within each construct were closely related and consistently measured their respective dimensions. However, the very high reliability values also indicate that the items may be strongly overlapping. The results should therefore be interpreted as evidence of consistency between the items and not as evidence that the constructs are completely distinct from each other.

Descriptive findings suggest that students valued both academic and interpersonal aspects of teaching. High mean scores were obtained in the items on subject knowledge, clarity of explanation, practical understanding, compassion and classroom environment. This supports the notion that students do not evaluate teaching only on the basis of the teacher's knowledge of the subject. Instead, they also look at how the teacher communicates, interacts and creates the learning atmosphere. The findings are consistent with previous research indicating that quality instruction and teacher-student interaction are important components of effective teaching (Delaney et al., 2010; Titsworth et al., 2015).

The correlation analysis showed a very strong positive relation between Perceived Subject Competence and Perceived Interpersonal Classroom Climate. This means that students who perceived their teachers as academically competent were also likely to perceive them as supportive and positive in classroom interaction. The result implies a strong relationship between students' academic and interpersonal judgments of teachers. This is in line with studies that argue that student evaluations of teaching are often a mixture of different teaching dimensions, rather than isolated judgments (Apodaca & Grad, 2005; Spooren et al., 2013).

According to the regression analysis, another significant predictor of Perceived Interpersonal Classroom Climate was Perceived Subject Competence. However, this result should be viewed with caution. As the study was based on cross-sectional perception data, the finding does not prove that subject competence causes a better interpersonal classroom climate. Rather, it points to a statistical association between students' perceptions of subject competence and their perceptions of classroom climate. In practice, students may be more likely to perceive a teacher who is viewed as knowledgeable, clear and academically prepared as also confident, supportive and effective in classroom interaction.

The high relationship between the two constructs may reflect the holistic nature of student perception. Students might get a general impression of a teacher and then rate several teaching qualities in the same direction. This is especially true for studies based on feedback, where ratings of knowledge, communication, support and classroom atmosphere might be affected by the student's overall experience with the teacher. Thus, the findings are to be understood as indicating a strong association between two dimensions of perceived teaching effectiveness, and not a strict causal pathway.

The results suggest that the effectiveness of teachers in higher education should be treated as a combination of subject competence and interpersonal classroom behaviour. The basis of academic credibility is subject knowledge. The creation of a classroom atmosphere in which students are comfortable and engaged is facilitated by interpersonal qualities. The findings suggest that higher education institutions need to go beyond academic expertise in terms of teacher development. It should also foster the communication skills, openness, compassion and classroom practices that encourage positive student engagement.

6. Conclusion

6.1 Conclusion

The aim of this study was to investigate students' perceptions of a teacher's subject competence and interpersonal classroom climate in higher education. The results showed that students had positive perceptions on both dimensions. The correlation and regression analyses results showed that there was a strong positive statistical association between perceived subject competence and perceived interpersonal classroom climate. This indicates that students who perceive a teacher as knowledgeable, clear and academically competent are also likely to perceive that same teacher as supportive and effective in maintaining a positive classroom environment. As the study is based on cross-sectional perception data, the results should be interpreted as evidence of association, not causation. The study reveals the significance of both academic competence and interpersonal classroom practice in teacher effectiveness in higher education.

6.2 Practical Implications

The results suggest that higher education institutions should pay attention to the teaching of both academic and interpersonal aspects. Faculty development programs should not only focus on subject knowledge but also reinforce the communication, approachability, compassion and the classroom interaction. The results also suggest that student

evaluation forms should contain items concerning instructional competence and classroom climate. However, student feedback should be used as one of many sources of teaching improvement rather than the sole measure of teacher effectiveness.

6.3 Limitations

The study has limitations. First, the sample consisted of 96 students obtained by convenience sampling. Therefore, the results may not be generalized to all students in higher education. Second, the study was based on students' perceptions only which may be influenced by personal experiences, expectations or general impressions of the teacher. Third, data collection was done at one point in time, thus the causal relationships between the variables could not be established in the present study. Another limitation is the study's use of a short 12-item feedback form. While reliability values were high, the very high alpha values suggest some items may have overlapped in meaning. More sophisticated instruments might be used in future studies to study the different dimensions of teacher effectiveness in more detail.

6.4 Future Work

Future research could utilize a larger and more diverse sample from a variety of higher education institutions. Future studies could also include other dimensions of teaching effectiveness such as communication skills, classroom management, assessment practices, digital teaching competence, and student engagement. Additional research might also examine students' perceptions by gender, academic level, discipline, or type of institution. Future studies can also use a mixed-method approach, combining questionnaire data with interviews or open-ended responses. This would give more insight into how students perceive teacher competence and classroom climate.

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