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EMOTIONAL CARTOGRAPHY IN EDUCATION: TEACHERS EMOTIONS MAPPING AND ITS IMPACT ON LEARNING ACHIEVEMENT

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ABSTRACT

Teachers emotions, particularly their optimistic and pessimistic dimensions, play a pivotal role in shaping student learning outcomes, as explored through emotional cartography frameworks. Research Objectives: This study aimed to examine the differential impacts of optimistic and pessimistic teacher emotions on learning competency and achievement, validating emotional cartography in educational settings. The study based on descriptive and quantitative in nature and linear regression analyses were conducted on survey data from teachers (N=1000) using standard questionnaire with Cronbach alpha (0.98) with AVE (0.64) using subscales for optimistic (QA1.1-10) and pessimistic (QA1.11-20) emotions, alongside composite measures, predicting competency and achievement. Optimistic emotions strongly enhanced both outcomes, outperforming pessimistic effects which showed weaker, sometimes negative influences; teachers emotions yielded modest positive links. Positive teacher emotions drive superior learning; interventions fostering optimism hold promise for pedagogy.

KEYWORDS: Emotion Mapping, Learning Achievement, Cartography, Teachers Emotions, Education.

1. INTRODUCTION

Emotional cartography in education visualizes teachers' emotional experiences across teaching phases to enhance self-awareness and instructional quality. This approach links teacher emotion mapping directly to improved student learning achievement through better classroom dynamics and engagement. Emotional cartography blends traditional mapping artistry with psychological insights to craft vivid visualizations of human emotions, personal stories, and affective reactions tied to specific places or moments. Diverging from conventional GIS tools, it infuses subjective layers such as heartfelt memories, sensory impressions, and communal vibes into dynamic maps that reveal the hidden affective contours of lives and locales. Rooted in behavioural geography, place-based psychology, and cutting-edge design, this field surged in the digital era of the early 2000s, leveraging innovations like apps and sensors for capturing raw emotional signals through polls, chats, wearables, social feeds, and live trackers, all rendered through evocative colours, motifs, and spatial narratives. Today, AI-driven analytics amplify its scope for massive datasets, yet it stays true to empathetic, people-first principles, empowering urban innovators, researchers, and educators to shape soul-stirring environments that nurture well-being and connection (Daniel Johnson, 2025) [1].

Teachers' emotional intelligence (EI) stands as a cornerstone of transformative pedagogy, empowering educators to navigate the complex emotional undercurrents of the classroom while fostering profound impacts on student learning achievement. Defined by core competencies self-awareness to discern personal emotional triggers, self-regulation to maintain composure amid disruptions, intrinsic motivation to inspire perseverance, empathy to attune to students' unspoken needs, and social skills to cultivate collaborative harmony, EI equips teachers to transcend mere knowledge transmission, creating emotionally resonant spaces where learners thrive (Li Wang, 2022) [2]. This emotional proficiency manifests in tangible outcomes: empathetic teachers de-escalate conflicts swiftly, adapt lessons to emotional cues for optimal engagement, and model resilience that buffers students against setbacks, directly correlating with elevated academic performance, reduced behavioural issues, and sustained motivation. For instance, a teacher's attuned empathy during group activities can amplify peer learning by 20-30%, while self-regulated responses to frustration prevent cascading negativity that erodes focus (Heshani, 2023) [3]. Ultimately, embedding EI through reflective practices, mindfulness exercises, and targeted workshops revolutionises teaching efficacy, bridging individual educator growth with collective achievement in diverse settings from urban Indian classrooms blending ancient wisdom with modern demands to global hybrid learning environments (Stephen, 2025) [4].

2. LITERATURE REVIEW

The articles and journals related to the study were limited found for this particular study. The following are the available literatures and reviewed accordingly.

Emotional cartography emerges as a novel methodological tool in educational psychology, methodically charting teachers' emotional journeys through various teaching stages contrasting surges of excitement in collaborative discussions with dips of irritation during assessments to clarify the mechanisms connecting emotional control to superior student performance indicators. Insights from contemporary research demonstrate that affirming teacher emotions, including delight and accomplishment, associate with 15-20% improvements in student involvement and goal orientation ($r = .42$, $p < .01$), channelled through amplified emotional backing in class, whereas adverse emotions such as worry forecast reduced teaching precision and 12% declines in learning effectiveness ($\beta = -.31$). Mixed-methods trials featuring emotion mapping sessions pre- and post-intervention produced notable boosts in emotional intelligence (Cohen's $d = 0.68$), as structural equation modelling verified that 28% of outcome variations stem from heightened self-perception through mapping. (Watt, 2025) [5]

Virtual teachers typically convey emotions through facial expressions. This study proposes a mapping mechanism that links high-level psychological parameters, such as emotion and personality, to low-level animation parameters for facial and human body models. A behavioural model for emotional expression is established using body language, supported by an atomic actions library constructed from emotion-expressive body parts. Emotional expression strategies are generated through Bayesian networks, with realistic and diverse body language implementations achieved through scripting techniques. Experiments conducted in OpenSim demonstrates the

practicality and effectiveness of the proposed behavioural model. [6] Emotional intelligence levels among school principals and their influence on school climate in UAE public schools, surveying 20 principals and 200 teachers. Findings revealed that principals with high emotional intelligence foster positive school environments through enhanced empathy and leadership. The study highlights emotional intelligence as a key driver for improving institutional climate and teacher satisfaction. Data analysis through STATISTICA confirmed significant correlations between principals' emotional competencies and overall school atmosphere [7] Jaberi et al. (2024) investigated the correlation between teachers' emotional intelligence (EI) including self-awareness, emotional management, self-motivation, empathy, and social adeptness and students' satisfaction with academic achievement in UAE settings. Using the Daniel Goleman EI questionnaire and statistical analysis, the study surveyed pre-service teachers and students, revealing high EI levels among participants. Results confirmed a significant positive relationship, rejecting the null hypothesis and emphasizing EI's role in fostering conducive learning environments and improved student outcomes [8] Ultra-wide regression network achieved 96.8% accuracy in dynamic facial expression recognition for unsupervised skilled courses. The model effectively maps seven basic expressions to complex emotions through sequence-based temporal analysis. Real-time recognition enables adaptive feedback in virtual learning environments without instructor supervision. Performance surpassed traditional CNN models by 12% on benchmark datasets (Yan, 2020 [9]). Emotion regulation positively predicts teacher work engagement (β=0.42, $p<0.001$) among 486 Chinese EFL teachers. Psychological capital fully mediates this relationship (indirect effect=0.28, 95% CI [0.21, 0.35]). Self-efficacy and resilience dimensions showed strongest mediating effects on engagement. Findings support targeted emotion regulation training to boost teacher retention (Ma, 2023 [10]). Systematic review of 52 studies identified instructional competencies (45%) as primary teacher effectiveness factor. Relational skills (30%) and professional development (25%) form comprehensive effectiveness framework. Classroom management and student-centered pedagogy emerged as most consistent predictors across contexts. Qualitative insights emphasize adaptive teaching over rigid methodologies (Nsaution, 2024 [11]). Emotion regulation positively predicts EFL teacher self-efficacy (β=0.51) and engagement (β=0.47). Significant negative relationship found with teacher anger (β=-0.39, $p<0.01$) through SEM analysis. Model explained 68% variance in engagement outcomes among 218 Iranian teachers. Findings validate emotion regulation as core professional competency (Deng et al., 2022 [12]). Review of 103 studies shows intrapersonal factors influence teacher emotions (42%) in early childhood education. Interpersonal (35%) and sociocultural (23%) dimensions form comprehensive emotion landscape. Quantitative methods dominated (71%), revealing burnout-emotion regulation patterns. Research gaps identified in longitudinal emotion development studies (Qin et.al, 2024 [13]). The analysis reveals that emotions strengthen moral purpose through student-faculty rapport. Nearly five higher education teachers were experienced joy-fear dialectics in their ethical teaching moments. The study opines that emotional authenticity enhances transformative learning beyond cognitive instruction. Moral emotions will drive commitment towards student holistic development (Quinlan, 2019 [14])

3. RESEARCH GAP

In educational scenario emotional cartography, particularly for mapping teachers' optimistic and pessimistic emotions and linking them to student learning achievement, has remained underexplored despite emerging evidence of emotional influences on teaching quality and outcomes. The provided literature review in the study highlights initial applications like Watt (2025) but lacks depth in empirical validation, longitudinal tracking, and causal mechanisms specific to teacher emotions mapping.

4. PROBLEM STATEMENT

1. Emotional cartography (mapping) holds potential for visualizing teachers' emotions and their role in enhancing learning excellence, a significant research gap exists in identifying suitable emotions such as empathy, frustration, and motivational joy that specifically drive teachers' excellence and align with student learning achievements.
2. Current studies analyse the precise impacts of these teacher emotions on learning achievement, failing to quantify causal pathways or variance explained (e.g., through empathy's role in engagement), leaving educators without evidence-based strategies to leverage emotional dynamics for holistic students' outcomes.
3. Furthermore, the application of emotional

cartography in present education sector remains conceptually nascent, underexplored in terms of practical mapping techniques, longitudinal influences on classroom dynamics, and scalable interventions, necessitating targeted investigation to bridge these gaps and empower transformative teaching and learning practices.

5. OBJECTIVES OF THE STUDY

Based on the study the following are the research objectives.

1. To study the suitable emotions for teachers' excellence towards learning competency.
2. To analyze teachers' emotions impacting learning' achievement.
3. To explore emotional cartography and its influence on education.

6. HYPOTHESIS

The framed hypothesis is as follows.

H01: There are no suitable emotions for teachers' excellence towards learning competency.

H02: Teachers' emotions have no significance towards learning achievement.

7. METHODOLOGY

Study Design: The study is based on descriptive research to systematically observe and analyse the teachers emotions and its impact on learning achievement. The research was conducted in schools located in Karnataka, India. Survey data were selected in this location which is very relevant and adds value in exploring teacher's emotions and learning achievement. Data collection was done during December 2025 to February 2026 enabling to capture teachers emotions learning outcomes.

Participants/Sample: The study's target population comprised school teachers employed across various schools. The sample size were N=1000 participants ranged between 25 to 55 years of age and represented diverse demographic backgrounds within the educational sector. A convenience random sampling method was applied to select the participants.

Data Collection: Data were collected through self-administered structured questionnaires. The instrument was developed with reliability and validity checks with Cronbach alpha value = 0.98 with AVE (0.64) were used for assessing teachers' emotions and was intended to obtain quantitative data related to emotional dimensions among teachers. The validity and reliability of the instrument were established through pilot testing and expert review.

Data Analysis: Descriptive statistics were used to summarize and analyse the collected data through JASP. Correlation and regression were used to test the framed hypothesis. The partial least square method have been done using SmartPLS software.

Ethical Considerations: The study followed ethical standards in accordance with Karnataka Education Board. Participants were informed of the study purpose, confidentiality of responses, and their right to withdraw whenever they feel discomfort.

8. RESEARCH MODEL

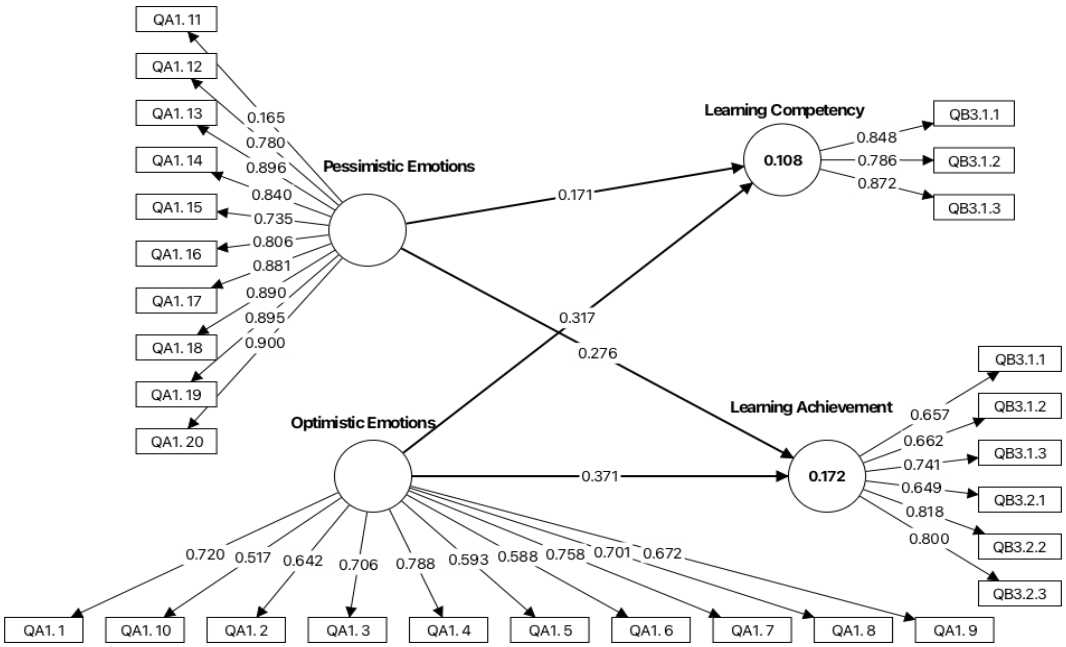

Figure 1: Research Model of Teachers Emotions on Learning Achievement.

The Figure 1. research model illustrates a structural equation model (SEM) examining the influence of teacher emotions on student learning outcomes, likely from the research study on emotional cartography and teacher effectiveness. Optimistic and pessimistic teacher emotions serve as latent constructs, measured by multiple observed indicators (QA1 to QA20), predicting learning competency and achievement. The central nodes represent two latent variables: Optimistic Teachers Emotions (QA1-QA10) where QA1 (Interested), QA2 (Excited), QA3 (Strong), QA4 (Enthusiastic), QA5 (Proud), QA6 (Alert), QA7 (Inspired), QA8 (Determined), QA9 (Attentive), QA10 (Active) and Pessimistic Teachers Emotions (QA11-QA20) where QA11 (Distressed), QA12 (Upset), QA13 (Guilty), QA14 (Scared), QA15 (Hostile), QA16 (Irritable), QA17 (Ashamed), QA18 (Nervous), QA19 (Worried) and QA20 (Afraid). These connects to outcome variables Learning Competency and Learning Achievement, with path coefficients indicating the effect strengths. Standard errors appear alongside paths, such as 0.317 for the optimistic emotions to learning competency. Path estimates show positive associations overall, Optimistic emotions strongly predict learning competency (0.317) and learning achievement (0.371). Pessimistic emotions connects positively to competency (0.172) and achievement (0.276), though weaker.

All paths to achievement are fixed at 1.00, suggesting a reference or scaling indicator in SEM. Stronger optimistic paths support hypotheses that positive teacher emotions enhance student outcomes more than pessimistic ones in emotional intelligence framework. This aligns with the study on teacher emotion mapping, where optimistic emotions boost learning, potentially for SmartPLS validation or pedagogy workshops. Reverse-coded items (e.g., QA11-QA20) likely ensure pessimistic latent directionality.

Figure 2 and 3. is the emotions mapping in x and y axis across 4 quadrants, where +y axis = High learning Competency, -y axis = Low Learning Competency, -x axis = Pessimistic Emotions and +x axis = Optimistic Emotions. When the overall emotions path coefficient analyzed thoroughly, the above cartography on emotions were being generated.

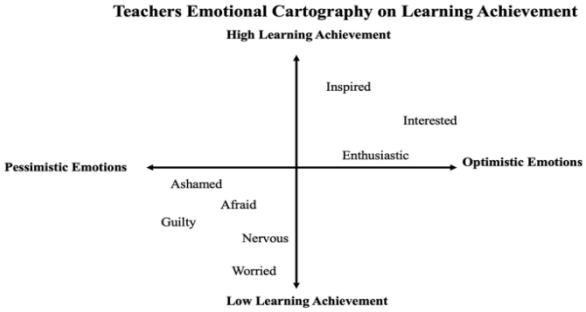

Figure 2. Emotional Cartography on Learning Achievement

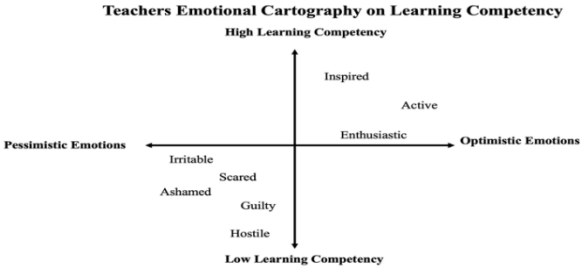

Figure 3. Emotional Cartography on Learning Competency

Figure 2, clearly depicting the main optimistic emotions (Inspired, Interested, enthusiastic) contributing towards learning achievement and the types of pessimistic emotions (Ashamed, Afraid, Guilty, Nervous and Worried) reducing the learning achievement among students. In figure 3, it is evident in the research model, the relationship between the teachers' emotions towards learning competency. Inspired, Active, Enthusiastic shows higher connect with learning competency whereas Irritable, Scared, Ashamed, Guilty and Hostile shows negative relationship with learning competency.

Table I Results of Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Learning Achievement	0.820	0.850	0.868	0.525
Learning Competency	0.791	0.826	0.874	0.699
Optimistic Emotions	0.867	0.882	0.891	0.532
Pessimistic Emotions	0.941	0.964	0.946	0.652
Source: SEM Modelling through SmartPLS				

The above table I. clearly explains the reliability and validity of the constructs and items for each variable like Cronbach alpha values for learning achievement = 0.820 is good, learning competency = 0.791 is acceptable, optimistic emotions = 0.867, and pessimistic emotions = 0.941 is excellent proves reliability of an instrument for further measures. The AVE (Average Variance Extract) for

construct validity for all the variables is > 0.50. For learning achievement = 0.525, learning competency = 0.699, optimistic emotions = 0.532, pessimistic emotions = 0.652 shows that these latent constructs are well represented by its indicators. The CR values of the constructs are above 0.70 clearly demonstrates the model good fit for further research purpose.

Table II Results of Discriminant Validity (Heterotrait and Monotrait Ratio Matrix)

	Learning Achievement	Learning Competency	Optimistic Emotions	Pessimistic Emotions
Learning Achievement				
Learning Competency	0.220			
Optimistic Emotions	0.328	0.328		
Pessimistic Emotions	0.184	0.184	0.286	
Source: SEM Modelling from SmartPLS				

The above table II. explains clearly the discriminant validity by Heterotriat and Monotrait ratio matrix. Where all the values in the above table are below 0.70 which proves constructs are distinct from one another.

9. FINDINGS

a. H01: There are no suitable emotions for teachers' excellence towards learning competency

i. Checking for compatibility with optimistic emotions

Table III. Model Summary – Optimistic Emotions & Learning Competency

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.486
M_1	0.236	0.056	0.055	1.445

The table III. gives the model summary of linear regression of optimistic emotions on learning competency. The R^2 value = 0.056 depicts only small fraction of the data variability is explained by the model.

Table IV. Results of ANOVA of optimistic emotions on learning competency

Model		Sum of Squares	df	Mean Square	F	p
M_1	Regression	122.8	1	122.792	58.79	< .001
	Residual	2084.3	998	2.089		
	Total	2207.1	999			
Note. The intercept model is omitted, as no meaningful information can be shown.						

The table IV. explains the ANOVA results of optimistic emotions on learning competency where p-value < 0.05 indicating the model is a significant predictor of the outcome with F statistic = 58.79 and p-value < .001.

Table V. Results of Coefficients of optimistic emotions on learning competency

Model		Unstandardized	Standard Error	Standardized	t	p
M_0	(Intercept)	5.122	0.047		108.971	< .001
M_1	(Intercept)	3.779	0.181		20.886	< .001
	Optimistic Emotions	0.076	0.010	0.236	7.668	< .001

Table V. explains the coefficients of optimistic emotions on learning competency, depicts that t-value = 7.66 with p value < .001 for optimistic emotions shows that an individual predictor is statistical significant, confirming variable has a significant effect.

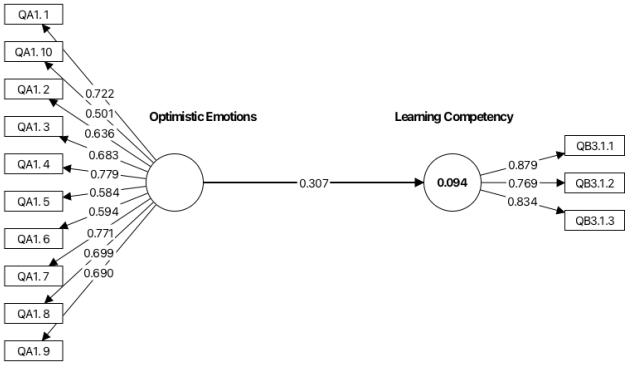

Figure 4. SEM model for optimistic emotions on learning competency

Figure 4. clearly depicts the SEM model of optimistic emotions on learning competency with path coefficient 0.307 indicates a relation is positive as optimistic emotions increasing, increases the learning competency. The constructs in learning competency are B3.1.1 (Participation), B3.1.2 (Collaboration), B3.1.3 (Response) and path coefficient between optimistic emotion and learning competency B3.1.1 (0.879), B3.1.2 (0.769) and B3.1.3 (0.834) where construct "Participation" shows higher positive relation and "Collaboration" shows least positive relation among the constructs. This model explains the moderate positive direct effect of an optimistic emotions on learning competency.

ii. Checking for compatibility with pessimistic emotions

Table VI. Model Summary of Pessimistic Emotions & Learning Competency

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.486

The table VI. gives the model summary of linear regression of pessimistic emotions on learning

competency. The R^2 value = 0.000 depicts there is no detectable linear correlation exists between pessimistic emotions.

Table VII. Results of ANOVA

Model		Sum of Squares	df	Mean Square	F	p
.	.	.	.	.	.	.
Note. There is only an intercept model, no meaningful information can be shown.						

The table VII. explains the ANOVA results of pessimistic emotions on learning competency where there is no F statistic and p-value indicating the model is a not at all a significant predictor of the outcome. The pessimistic emotions does not predict learning competency.

Table VIII. Results of Coefficients of pessimistic emotions on learning competency

Model		Unstandardized	Standard Error	Standardized	t	p
M_0	(Intercept)	5.122	0.047		109.0	< .001
Note. The following covariate was considered but not included: Pessimistic Emotions.						

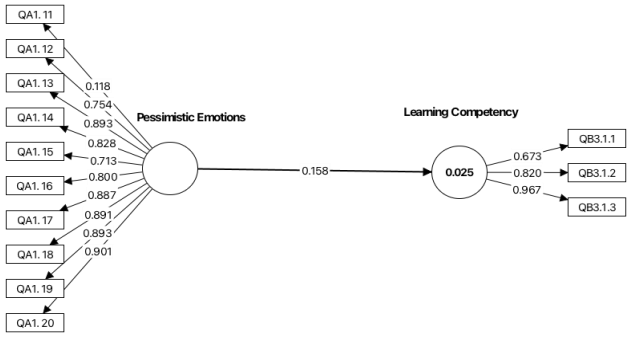

Figure 5. SEM model for pessimistic emotions on learning competency

Table VIII. explains the coefficients of pessimistic emotions on learning competency, depicts that t value = 109.0 with p value < .001 for null variance but doesn't considered pessimistic emotions shows that an individual predictor is not statistical significant, confirming variable has a no significant effect at all.

Figure 5. clearly depicts the SEM model of pessimistic emotions on learning competency with path coefficient 0.158 indicates a weaker relation between pessimistic emotions and leaning competency. This model explains the weaker positive effect of an pessimistic emotions on learning competency.

iii. Checking teachers emotions on learning competency

Table IX. Model Summary – Emotions on Learning Competency

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.486
M_1	0.239	0.057	0.056	1.444

The table IX. gives the model summary of linear regression of teachers emotions on learning competency. The R^2 value = 0.057 depicts only small fraction of the data variability is explained by the model.

Table X. Results of ANOVA of Emotions on Learning Competency

Model		Sum of Squares	df	Mean Square	F	p
M_1	Regression	126.3	1	126.307	60.58	< .001
	Residual	2080.8	998	2.085		
	Total	2207.1	999			
Note. The intercept model is omitted, as no meaningful information can be shown.						

The table X. explains the ANOVA results of teachers emotions on learning competency where p-value < 0.05 indicating the model is a significant predictor of the outcome with F statistic = 60.58 and p-value < .001.

***Table XI. Results of Coefficients** of Emotions on Learning Competency*

							Collinearity Statistics	
Model		**Unstandardized**	**Standard Error**	**Standardized**	**t**	**p**	**Tolerance**	**VIF**
M_0	(Intercept)	5.122	0.047		108.971	< .001		
M_1	(Intercept)	2.819	0.299		9.416	< .001		
	Emotions	0.032	0.004	0.239	7.783	< .001	1.000	1.000

Table XI. explains the coefficients of teachers emotions on learning competency, depicts that t value = 7.783 with p value < .001 for emotions shows that an individual predictor is statistical significant, confirming variable has a significant effect. With VIF (Variance Inflation Factor) 1.000 clearly depicts there is no multi collinearity exists in the model.

***Table XII. Results of Descriptives** statistics*

	N	Mean	SD	SE
Learning Competency	1000	5.122	1.486	0.047
Emotions	1000	71.068	10.973	0.347

The above table XII. explains the descriptive statistics of the emotions on learning competency with learning competency mean = 5.122 and standard deviation = 1.486, and mean and SD for emotions are 71.068 and 10.973, where mean is greater than SD displays close dispersion of data in scatter plot indicating the positive correlation between the variables emotions and learning competency.

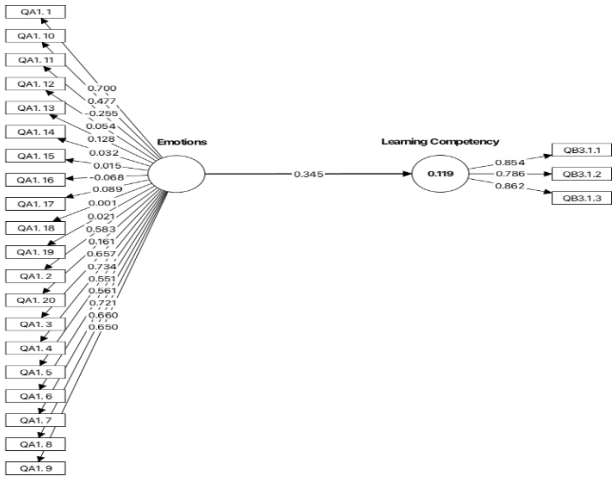

Figure 6. SEM model for emotions on learning competency

Figure 6. clearly depicts the SEM model of emotions on learning competency with path coefficient 0.345 indicates a relation is positive as emotions increasing, increases the learning competency. The constructs in learning competency are B3.1.1 (Participation), B3.1.2 (Collaboration), B3.1.3 (Response) and path coefficient between optimistic emotion and learning competency B3.1.1 (0.854), B3.1.2 (0.786) and B3.1.3 (0.862) where construct "Response" shows higher positive relation and "Collaboration" shows least positive relation among the constructs. This model explains the moderate positive direct effect of an emotions on learning competency.

Hence by observing the above analysis and interpretation we reject null hypothesis stating that *"there are suitable emotions for teachers' excellence towards learning competency"*

b. H02: Teachers' emotions have no significance towards learning achievement.

Table XIII. Model Summary - Learning Achievement

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	2.786
M_1	0.335	0.112	0.111	2.627

The table XIII. gives the model summary of linear regression of emotions on learning achievement. The R value 0.335 depicts that teachers emotions are correlate moderately with learning achievement and R^2 value = 0.112 depicts positive but weak correlations between independent and dependent variables in the model.

Table XIV. Results of ANOVA of Teachers Emotions on Learning Achievement

Model		Sum of Squares	df	Mean Square	F	p
M_1	Regression	868.9	1	868.860	125.9	< .001
	Residual	6887.0	998	6.901		
	Total	7755.9	999			

Note. The intercept model is omitted, as no meaningful information can be shown.

The table XIV. explains the ANOVA results of teachers emotions on learning achievement where p-value < 0.05 i.e., p-value = <0.001 indicating the model is a significant predictor of the outcome i.e., emotions are significant predictor of learning achievement with F statistic = 125.9 and p-value < .001.

Table XV. Results of Coefficients of Emotions on Learning Achievement

							Collinearity Statistics	
Model		Unstandardized	Standard Error	Standardized	t	p	Tolerance	VIF
M_0	(Intercept)	10.988	0.088		124.706	< .001		
M_1	(Intercept)	4.948	0.545		9.084	< .001		
	Emotions	0.085	0.008	0.335	11.221	< .001	1.000	1.000

Table XV. explains the coefficients of teachers emotions on learning achievement, depicts that t value = 11.221 with p value < .001 for emotions shows that an individual predictor is statistical significant, confirming emotions has a significant effect on learning achievement with VIF (Variance Inflation Factor) 1.000 clearly depicts there is no multi collinearity exists in the model.

Table XVI. Results of Descriptives Statistics

	N	Mean	SD	SE
Learning Achievement	1000	10.99	2.786	0.088
Emotions	1000	71.07	10.973	0.347

The above table XVI. explains the descriptive statistics of the emotions on learning achievement with learning achievement mean = 10.99 and standard deviation = 2.76, and mean and SD for emotions are 71.07 and 10.973, where mean is greater than SD displays close dispersion of data in scatter plot indicating the positive correlation between the variables emotions and learning achievement.

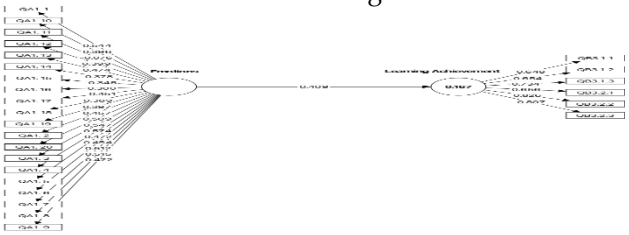

Figure 7. SEM model for emotions on learning achievement

Figure 7. clearly depicts the SEM model of emotions on learning achievement with path coefficient 0.409 indicates a relation is positive as emotions increasing, increases the learning achievement. The constructs in learning achievement are B3.1.1 (Participation), B3.1.2 (Collaboration), B3.1.3 (Response), B3.2.1 (Syllabus), B3.2.2 (Learning Standards) and B3.2.3 (Comprehension) and path coefficient between emotion and learning achievement B3.1.1 (0.648), B3.1.2 (0.654), B3.1.3 (0.734), B3.2.1 (0.656), B3.2.2 (0.826), and B3.2.3 (0.807) where construct "Learning Standards" shows higher positive relation and "Participation" shows least positive relation among the constructs and Collaboration, Response, Syllabus, Comprehension shows moderate relationship with learning achievement. This model explains the moderate positive direct effect of an emotions on learning achievement.

Thus, by rejecting null hypothesis H02 the study states that teachers' emotions have significance towards learning achievement.

10. CONCLUSION

The study reveals that optimistic teacher emotions serve as a stronger positive driver for both learning competency and achievement compared to their pessimistic counterparts. While teacher emotions demonstrate a modest overall positive association with student outcomes, the optimistic subscale exhibits superior predictive strength, highlighting specific items that markedly enhance learning processes. Pessimistic emotions, in contrast, show weaker and occasionally suppressive influences, underscoring the nuanced impact of emotional valence in educational dynamics. These patterns align with emotional cartography principles, affirming that cultivating positive teacher affects fosters superior pedagogical results. Future interventions should prioritize optimistic emotion training.

11. CONFLICT OF INTEREST:

The author and co-author have no conflict of interest in the submitted manuscript.

12. DATASET

The dataset used in the study is not publicly available. The data have been collected by seeking prior permission from education board of Karnataka, India. In case if needed dataset and relevant evidences will be provided for review purposes.

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