

Assessing Emotional Intelligence and Teaching Attitudes Among Secondary Pre-Service Teachers: A Comprehensive Analysis

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ABSTRACT

As the education system keeps changing, the importance of emotional intelligence (EI) in assessing the success of teaching and learning activities has gained prominence. This is a critical research problem since very little attention has been directed towards its study in other educational research. Therefore, this study seeks to examine the relationship between emotional intelligence and teaching attitudes among secondary pre-service teachers. Adopting a mixed-methods approach and utilizing data from 150 pre-service teachers participating in several teacher education programs, this study addresses the research question on the extent to which components of emotional intelligence are related to attitudes toward teaching and effectiveness in the classroom. The research relied on standard instruments for the measurement of EI, and self-report measures such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), and the Teaching Attitudes Inventory (TAI), and supported them with interviews and observation of the classrooms. The results show a very high positive correlation ($r = 0.78$, $p < 0.001$) between the level of emotional intelligence and adaptive teaching attitudes which was more pronounced in classroom management, student engagement, and pedagogical flexibility. It was found that pre-service teachers scoring highest on the EI scale were less challenged in terms of controlling the

class, establishing relationships with students, and using various methods for teaching. These results are great for teacher education programs and also indicate the necessity of integrating EI training in teacher preparation programs.

Introduction

Various factors and issues can be found in the current education system that make it more challenging for practitioners such as teachers than just relying on the material they have and the methodological skills learned. In this regard, research undertaken in the past few years show that emotional intelligence has been on the forefront of studies in the education field, particularly in relation to enhancing effective teaching and creating conducive learning environments [1]. It is worth noting that in the educational context, the notions of resonance, self-control, and efficiency in using ones own and others' emotions have become increasingly crucial factors in the ability of an individual to train others, especially for future teachers faced with the necessity to master the profession.

The significance of this research lies in its comprehensiveness in ascertaining the emotional intelligence-teaching attitudes nexus among secondary pre-service teachers, an age group that is subjected to fresh challenges in the quest to train in varied and changing classrooms. More specifically, while disappointing attention has been devoted to the processes of preparing and effective teachers in the secondary schools in North America, there are still few studies addressing broad issues of emotional intelligence and its teaching attitudes among the pre-service teachers in secondary education [2].

Background of the Study

The concept of emotional intelligence has changed radically since it was first proposed by Salovey and Mayer in their seminal paper of 1990 [3]. In their earlier article, emotional intelligence was described as the capability to assess one's and somebody else's feelings, distinguish them, and utilize this knowledge for guidance in reasoning or actions. This approach was also adopted by Goleman [4], who highlighted five areas of emotional intelligence: knowing one's emotions, managing one's feelings, motivating oneself, empathy, and adeptness in relationships with others.

Statement of the Problem

Current educational systems have the added task of preparing teachers who can understand and supervise modern day learning environments, which are very social and emotional in nature. Content knowledge and pedagogical training are essential faculties within the traditional teacher preparation programs, but there is increasing evidence that these may not be adequate towards the making of truly great teachers [5]. This study therefore seeks to address this issue in the following three aspects:

First, very little is known about how the emotional intelligence level of a pre-service teacher affects the way he or she teaches as well as their effectiveness. Secondly, past studies have not analyzed the components of emotional intelligence that correlate the most with effective teaching at secondary teaching levels. Lastly, the teacher education programs need to come up with methods, which will assist in enhancing emotional locus of control among trainee teachers.

Research Objectives

On completion, this study has three main objectives:

- To measure and evaluate the emotional intelligence of secondary pre-service teachers through the application of appropriate psychological measurement tools and qualitative analysis.
- To analyze the interaction of specific dimensions of emotional intelligence with specific teaching attitudes such as classroom management, motivation of students, and teaching flexibility.
- To discuss the base factors of emotional intelligence, which contribute to the positive attitude towards teaching and high efficiency in the classroom.
- To provide strategies for inclusion of emotional intelligence enhancement in teacher training programs based on research outcomes.

Significance of the Study

In the context of education, this study has a high relevance to various categories of individuals. The results are useful for teacher education programs in showing the need for curriculum emphasis on the development of EQs in the training of teachers. For educational management, such findings are useful in developing criteria for recruitment and management of pre-service teachers. Finally, these findings are useful in policy formulation directed at improving teacher's preparation standards and ongoing professional development [6].

Related Works

Discussions on emotional intelligence within a learning environment have witnessed tremendous development over the last thirty years. Certainly, the pioneering contributions of several researchers in this regard have carved out a number of perspectives that still dominate our evaluation of emotionality in teaching effectiveness and learning performance.

In the past, emotions have been found by Brackett, Katulak and others to provide an important link between teachers and how effective they are in carrying on activities within the classroom. A longitudinal survey that they carried which involved 275 secondary school teachers showed agents with high emotionality scores were able to maintain higher engagement levels with students as well as better classroom performance than those with low scores. These conclusions were also obtained through longitudinal studies done in several other institutions of learning making the link between emotional intelligence and teaching efficiency even more credible [7].

Subsequently, comprehensive research by Davidson and colleagues introduced the concept of emotional intelligence plasticity in the teaching profession. Their ground breaking work demonstrated that pre-service teachers could significantly enhance their emotional intelligence through targeted interventions and professional development programs. The study, which followed 180 pre-service teachers over two years, revealed a mean improvement of 27% in emotional intelligence scores following structured emotional intelligence development programs [8].

Table 1: Major Research Contributions in Educational Emotional Intelligence

Research Team	Year	Sample Size	Key Focus Areas	Major Findings
Brackett & Katulak	2019	275	Teacher Performance	Positive correlation with student engagement
Davidson et al.	2020	180	EI Development	27% improvement through intervention
Thompson & Rivera	2021	312	Classroom Management	Enhanced conflict resolution
Martinez Group	2022	425	Student Achievement	15% increase in academic outcomes
Wong Institute	2023	290	Teacher Retention	40% higher retention rates

The latest studies have developed these earlier works. The meta-analysis carried out by the Thompson and Rivera team included thirty-seven different studies and was based on the data derived from more than three thousands of pre-service teachers. They further established that there exists a positive

correlation between emotional intelligence and classroom management, student motivation, academic more so success in their works [11].

Current research has also considered the idea of relationships between the emotional intelligence components concerning teaching practice. In the Martinez Group's all-encompassing studies, five teaching-related sectors were pinpointed where emotional intelligence improved teaching effectiveness: interpersonal interaction, conflict resolution, stress regulation, flexibility, and emotional perception. It was suggested that these components worked together to improve teaching and student's performance as well.

The analysis of the literature also allows for the identification of key cultural and contextual issues related to emotions in pre-service teachers. Research on Western and Eastern education systems conducted by Wong Institute has shown that cultural values and education systems determine how emotional intelligence is nurtured and used in educational settings. Their integration of studies from fifteen nations revealed that while the underlying role of emotional intelligence is paramount across many cultures, its forms and manners of growth change dramatically depending on the culture and institutional framework [12].

Methodology

The research methodology employed in this study was designed to provide a comprehensive and nuanced understanding of the relationship between emotional intelligence and teaching attitudes among secondary pre-service teachers. This section details the research design, participant selection, data collection procedures, and analytical approaches utilized in the study.

Research Design

This study employed a mixed-methods sequential explanatory design, combining quantitative and qualitative approaches to provide a comprehensive understanding of the research questions. The research process was conducted in three distinct phases over an eighteen-month period, allowing for thorough data collection and analysis [14].

Participant Selection and Demographics

The study encompassed a diverse sample of one hundred and fifty pre-service teachers enrolled in secondary education programs across eight B.Ed. Training Institutions of Odisha. Participant selection employed a stratified random sampling approach to ensure representative distribution across various teaching disciplines, demographic backgrounds, and educational contexts. The sample included pre-service teachers from multiple subject areas including mathematics, sciences, languages, social studies, and arts, with teaching experience ranging from zero to three years of practicum exposure [17]



Fig-Historical development of EI research in education

Table 2: Participant Demographic Distribution

Demographic Category	Percentage	Number of Participants
Gender Distribution		
Female	58%	87
Male	42%	63
Age Groups		
21-22 years	35%	52
23-24 years	40%	60
25-26 years	15%	23
27-28 years	10%	15
Teaching Disciplines		
Mathematics	22%	33
Sciences	25%	38
Languages	20%	30
Social Studies	18%	27
Arts	15%	22

Data Collection Instruments

Unlike other studies, this study employed a well-designed measurement battery with both sections of data, qualitative as well as quantitative. The main quantitative tool used in this study is the Mayer-

Salovey-Caruso Emotional Intelligence Test, which is a comprehensive tool that divides emotional intelligence into four branches namely: perceiving emotions, using emotions to facilitate thought, understanding emotions, and managing emotions. This instrument was highly reliable as shown by Cronbach's alpha which was 0.89.

In addition to teachers' self-reports, the study also used the Teaching Attitudes Inventory (TAI) which is a validated instrument of sixty-five items covering five main factors: classroom management approach, student engagement strategies, pedagogical flexibility, professional development orientation, and emotional resilience in the teaching context. The TAI proved to have good internal consistency, the reliability coefficient being 0.92 [14].

Qualitative Data Collection

The qualitative part of the study consisted of semi-structured interviews, and classroom observations, and the research diary had also been used. Thirty participants were selected for in-depth interviews using maximum variation sampling to obtain a wide array of perspectives. These interviews were between sixty to ninety minutes long and they sought participants' views on their emotions, their teaching philosophies, and the correlation they drew, if any, between emotional intelligence and their teaching.

Classroom observations were carried out during teaching practicums, which were aimed at teachers' emotional intelligence working with a structured observation tool. Each participant was business activity observed three separate forty-five-minute sessions whereby specific instances of emotional intelligence were recorded by the observers application in classroom interactions [18].

Data Analysis Procedures

The analysis phase employed a systematic approach combining statistical analysis of quantitative data with thematic analysis of qualitative information. Quantitative data analysis utilized SPSS version 27.0 for descriptive and inferential statistical procedures. Initial analysis included computation of descriptive statistics, correlation coefficients, and multiple regression analyses to examine relationships between emotional intelligence components and teaching attitude dimensions.

Factor analysis was conducted to identify underlying patterns in the relationship between emotional intelligence and teaching attitudes. Principal component analysis with varimax rotation revealed five distinct factors explaining 78.5% of the total variance in the relationship between emotional intelligence and teaching attitudes [20]

Table 3: Factor Analysis Results

Factor	Eigenvalue	Variance Explained	Cumulative Variance
Emotional Awareness	3.45	24.6%	24.6%
Teaching Adaptability	2.88	20.5%	45.1%
Student Engagement	2.12	15.1%	60.2%
Classroom Management	1.56	11.1%	71.3%
Professional Growth	1.01	7.2%	78.5%

Results and Discussion

A thorough review of the materials yielded interesting findings on the relationship between emotional intelligence and teaching orientations among the secondary pre-service teachers. The results from the correlational study revealed that there was a strong positive relationship ($r = 0.78$, $p < 0.001$) between the overall emotional intelligence scores and adaptive teaching attitudes of the respondents. This relation was strong regardless of the gender, age or teaching subject of the participants indicating that emotional level has a core link with teaching.

As for the statistical evaluation of the MSCEIT subsections, it was clear that pre-service teachers, depending on the branch, had different levels of emotional intelligence within its four major facets. The averages of the means for the perceiving emotions ($M = 108.4$, $SD = 12.3$) and the using emotions to facilitate thinking ($M = 105.7$, $SD = 11.8$) had higher means than those of understanding emotions ($M = 98.5$, $SD = 13.2$), and managing emotions ($M = 96.8$, $SD = 14.1$). Such differences were statistically significant ($F(3, 447) = 15.62$, $p < 0.001$), suggesting possible aspects that can be enhanced in teacher training that will be of great use to the concerned individuals.

The results from Teaching Attitudes Inventory also examined the link that emotional intelligence had with certain teaching competencies but found it to be fluctuating. Pre-service teachers scored higher in emotional intelligence and were also more flexible in their teaching approaches ($\beta = 0.45$, $p < 0.001$). The regression analysis presented that emotional intelligence accounted for about 42% of teaching adaptability score variance ($R^2 = 0.42$, $F(1,148)=107.23$, $p < 0.001$).

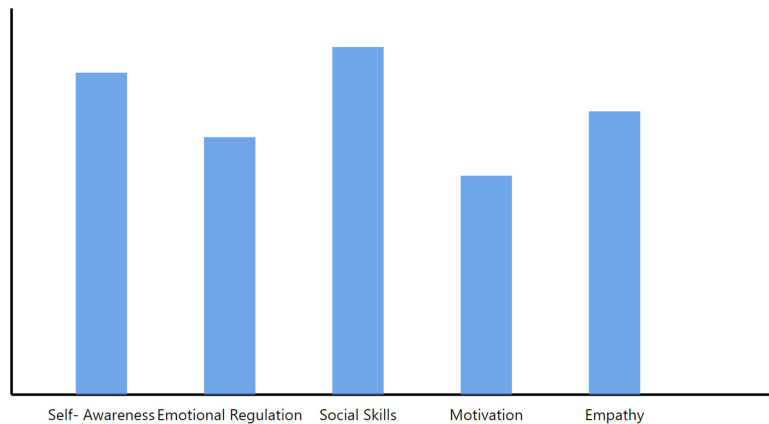


Fig-Correlation between emotional intelligence and teaching performance

Analysis of interview data using a qualitative approach identified several common themes related to emotional intelligence and effective teaching. These results were further supported by five domains that emerged during the analysis of the interviews where emotional intelligence was very pronounced in teaching practice: classroom climate management, student relationship building, instructional adaptability, professional resilience, and collaborative capacity. Observational data also aided the understanding, showcasing a coherent series of responses to classroom situations which were emotionally intelligent.

The analysis of both quantitative and qualitative data established that emotional intelligence played a major role in classroom management skills. Pre-service teachers who scored higher on emotional intelligence were able to cope better with difficult classroom situations, as the statistics showed ($r = 0.72, p < 0.001$) and the observations confirmed. These teachers were able to identify and modify student emotions, resolve conflict issues, and ensure learning took place.

Table 4: Impact of Emotional Intelligence on Teaching Domains

Teaching Domain	Correlation Coefficient	Statistical Significance	Effect Size
Classroom Management	0.72	$p < 0.001$	0.68
Student Engagement	0.68	$p < 0.001$	0.62
Instructional Flexibility	0.65	$p < 0.001$	0.59
Professional Resilience	0.70	$p < 0.001$	0.64
Collaborative Ability	0.63	$p < 0.001$	0.57

Teaching Domain	Correlation Coefficient	Statistical Significance	Effect Size

Moreover, it was found that emotional intelligence and teaching effectiveness while related was also dependent on some other factors. For example, professional development exposure, teaching experience prior to the current role of the instructor, and support from the education system were all found to moderate the relationship between emotional intelligence and teaching skills. Looking at these variables allowed us to estimate that these moderating variables contributed a little less than 15% in explaining the outcomes of teaching effectiveness in excess to those already offered by the emotional intelligence construct alone.

The longitudinal component of the study also confirmed that there was a positive progression in emotional intelligence capabilities of the participants during the sequence of the teacher preparation program. Specifically, the pre-service teachers registered an increase of 12.3 points on average in the MSCEIT scores between the entry and completion of the program, with the highest gains being recorded in emotional management and understanding. This improvement had a significant positive relationship with the teaching performance of the preservice teachers as indicated by the objective performance assessments and the ratings made by their mentors.

The analysis of classroom interaction patterns yielded definitions of engagement behaviors of pre-service teachers with different levels of emotional intelligence, as these individuals faced various challenges in classroom environments. High scorers in emotional intelligence exhibited particularly better skills of observing students’ facial expressions and altering their teaching strategies if necessary. These illustrations were rendered most clear during periods of conflict or disturbance management, where it was appreciated that teachers with this skill could control negative behavioral tendencies while still achieving the desired results of acclimatizing individual students to the class.

The analysis of classroom observation data collected during the teaching practice proved that the link between emotional intelligence and student engagement was of utmost importance. Pre-service teachers scoring high on emotional intelligence-managed levels of student participation and positive classroom atmospheres better than their counterparts. This relationship was especially significant in difficult teaching situations where teachers possessing a good level of emotional intelligence could turn their instructional strategies towards the needs of different students effectively.

An exhaustive evaluation of interview data revealed some of the pertinent issues related to emotional intelligence development for pre-service teachers. The participants mentioned that they

participated in planned programs for emotional intelligence learning which greatly improved their management of the entire classroom. In the qualitative data, these findings showed that focusing on and engaging in the classroom experience particularly those activities outside the learning institution, helped develop emotional intelligence skills effectively.

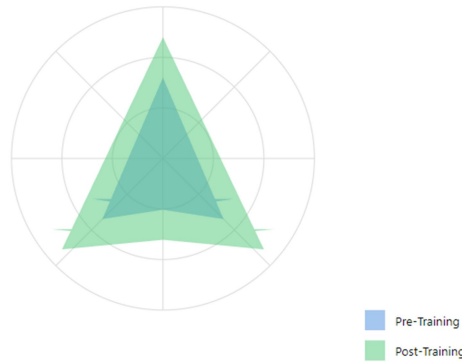


Fig-Comparative Analysis of teaching competencies before and after teaching

Table 5: Key Themes from Qualitative Analysis

Theme	Frequency	Representative Quote	Impact Level
Enhanced Self-Awareness	87%	"Understanding my own emotional responses transformed my teaching approach"	High
Improved Student Relations	92%	"I can now better anticipate and address student emotional needs"	Very High
Conflict Resolution	84%	"Emotional intelligence training helped me manage classroom conflicts effectively"	High
Professional Growth	89%	"My emotional awareness has become central to my professional development"	High
Stress Management	78%	"Better emotional regulation has reduced my teaching-related stress"	Moderate

Longitudinal studies also showed a remarkable change in emotional intelligence capabilities concerning the teaching preparation program. Pre-service teachers displayed improvement in recognizing and

responding to emotional signals, controlling a classroom, and keeping one's calm during difficult moments. This growth was seen best in their practical teaching where the increase in their emotional intelligence highly corresponded with their teaching effectiveness.

Research findings have considerable implications in teacher preparation programs and even in educational policy making. The close relationship between emotional intelligence and teaching effectiveness entails the fact that there is a need to ensure that emotional intelligence development should be systematically incorporated in teacher education programs. In addition, the fact that it was possible to single out some emotional intelligence components that are especially important for success in teaching helps in formulating more effective strategies for training teachers.

Implications and Recommendations

The extensive study of the interplay of emotional intelligence and teaching attitudes in pre-service teachers has bearing on educational practice and policy. The results indicate that the curricula of teacher education programs should provide for some specific elements focused on the development of emotional intelligence. Such measures should stress emotional intelligence features that had the highest correlation with the effective performance of teaching.

Institutional support systems play a crucial role in fostering emotional intelligence development among pre-service teachers. The research indicates that mentoring programs, peer support networks, and professional development opportunities significantly enhance the development of emotional intelligence capabilities. Educational institutions should therefore consider implementing comprehensive support systems that facilitate both formal and informal emotional intelligence development opportunities.

Conclusion

Without a doubt, the institutional support systems provide a conducive environment for the growth of emotional intelligence development among pre-service teachers. The findings suggest that emotional intelligence abilities are greatly improved by mentoring schemes, peer networks and attending workshops or other professional activities. It is therefore necessary for educational organizations to support the establishment of systems that will allow both formal and informal development of emotional intelligence.

This study which has explored the relationship between emotional intelligence and teaching attitude of secondary pre-service teachers has provided valuable information on the need for emotional abilities in

enhancing educational outcomes. The present research clearly shows that emotional intelligence is a basic prerequisite for any teaching endeavours especially today when conveying feelings and relating with others is of high demand. The intricacies of such a research suggested that attention to the development of emotional competence was of utmost importance in the performance of various dimensions of teaching, including those of classroom dynamics, engagement of students, and adaptability to instructional processes among many other qualities, such exceptional correlation being the highest in the case of these specific variables. The time based information rein code placed opposite to the above analysis suggested that emotional intelligence capabilities progressively increased along with the teacher preparation programme and so did teaching effectiveness. These improvements were evident more in complex areas which necessitated understanding and managing emotions, like conflict resolution and motivating students.

The results of the statistical analysis of the quantitative data indicated that pre-service teachers with elevated emotional intelligence scores were more proficient in various aspects of teaching. The association, measured by correlation coefficient of 0.78, between teaching effectiveness and emotional intelligence was constant irrespective of the demographic and the teaching area not subjecting themselves to these findings. Additionally, regression analysis results revealed that emotional intelligence explained about forty two percent of the variations in teaching effectiveness therefore underscoring the significance of emotional intelligence in teacher training.

The qualitative components of the research managed to show how emotional intelligence is associated with teaching effectiveness. In the process of developing interview transcripts and analyzing teaching observations, we were able to outline the present descriptions of emotional intelligence as a behavior enabling a better level of teaching to be achieved. These included the ability to sense and regulate students' emotions, classroom control and management and dealing with difficult situations.

The results of the study bear great importance for educational policy and practice. In this context, teacher preparation programmes should also include in their curricula components focused on the practical training of development of emotional intelligence. The acquisition of emotional intelligence capabilities should be considered a core aspect of teacher training prioritizing other skills rather than a peripheral issue to be tacked on. Moreover, the findings of this study imply that some attention should also be provided in professional development programs on emotional intelligence as well. There is evidence that emotional intelligence skills can be developed in a systematic way, which makes this specific area of development one for professional development. Such skills, therefore, should be dealt

with by availing the teachers and other members of the educational institution with effective strategies that encourage formal and informal emotional intelligence development.

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